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Non-Oil Exports and Economic Growth in Iran during 1978-2008

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Abstract: Expansion of non-oil export has been emphasized in recent years by all governments and economic experts regard it as one of the essential strategies raising economic growth. Different schools of economics believe that foreign trade especially non-oil export is the moving motor of economic growth. Many experimental studies have been conducted in the field as well. The present study aims to investigate the relationship between non-oil export and economic growth in Iran in the years between 1978-2008. The data needed for this study- time series about and non-oil export and Gross national product statistics -were collected from the Iranian Central Banks. The basic model applied in this study is derived from some empirical study conducted by researchers like "Ibrahim mirza" on "oil exports, non-oil exports, and economic Growth" in 2003 aiming to explore the effect of non-oil export on economic growth. In order to estimate the coefficients of model, OLS method and Eviews software were used. After estimating the model and parameters, coefficients and considering the t statistic regarding non-oil exports, the research hypothesis stating that the incrassation of non-oil export in years between 1978-2008 affected economic growth is proven i.e., the coefficient concerning non-oil exports is statistically meaningful.

Key words: Economic growth, export, foreign revenues, non-oil export

INTRODUCTION

Economic growth and development are the main economic targets that would follow. To achieve these objectives and to accomplish high rates of economic growth and a significant decrease in the unemployment rate, according to foreign trade and especially non-oil exports are vital and necessary.

Increase exports and expansion of foreign exchange earnings improved balance of payments. Enhance of trade balance will also improve the structure and thus will help the confidence of foreigners trying to buy our exports. Entering money through exports will raise amount of activity in the whole country and economic stationary and trade constant lead to grow in foreign investments in the country. Developing non-oil exports, in addition to the increase in non-oil revenues and foreign exchange and improving balance of payments, by increasing the production capacity and GDP growth will increase employment and is a result of economic growth.

Exports in Iran are made up of two parts: oil exports and non-oil exports. On one hand the economic planners and policy makers regard to the world and the pricing of oil is related to world situation. On the other hand, an increase in oil exports means more sales of national wealth, and such the proceeds are not rational behaviour and in fact do not increase national wealth and capital. While the non-oil exports will create income and will increase national income through multiplier coefficient. So the non-oil exports are well-known as a variable that could effect on the economy and it is inevitable and necessary to the economic managers to have some knowledge about it. Therefore we have considered examining the effect of non-oil export on the economic growth. In this paper the main hypothesis is that increase non-oil exports will increase the economic growth in Iran in the period 1978-2008. In this study, economic growth is measured by GDP growth. The data (time series) about exports and GDP are provided and extracted from the Central Bank of Iran in the 1978-2008 periods.

In this section of the first theoretical papers related to exports and its role in the Iranian economy. The economic growth and its determinants are analyzed. Exports of goods that are domestically produced or as raw materials, semi-manufactured goods or components imported separately and then assembled into final form and may be issued. Iran's oil exports and the export of non-oil exports are made up of two parts, oil exports and oil exports. To the non-oil exports all items of goods and services other than oil are included. The following types of non-oil exports can be outlined:

- Exports of agricultural commodities
- Export of industrial goods (made)

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- Exports of minerals and building materials (Goharian, 1995)

Non-oil exports and increase production capacities: According to Keynes' theory, demand and demand side factors affect amount of real product and economic activities level. Demand may be satisfy by internal or external goods and services. The lack of external demand (in a closed economy) will cause the production based on domestic factors shaping the demand and supply in spite of possible production capacity demand will be balanced. But if the foreign demands (exports) also exist, obviously the economy can use the unused capacity and the supply of foreign demand (export of goods abroad). Thus, the non-oil manufacturing capacity, there is a reciprocal relationship.

On the other hand, Non-oil exports affect other economic variables, particularly the employment. It can impact on employment in several sectors and activities. Production to satisfy domestic demand will lead the economy to unemployment because the equilibrium between supply and domestic demand will lead to low-level equilibrium. Impact on employment can be found in manufacturing, exporting and marketing, gathering and packing and foreign demand can increase GDP and then employment. In the other word, if the products are also exported to foreign markets, the increased demand that can be produced more goods and thus provide more employment.

In most developing countries, export diversification is lack and mainly limited to one or two raw material and often 70 to 90% of exports include such production. So the country's foreign exchange earnings are very low. For example Egypt's cotton exports, Brazilian coffee , copper of Chile and Bangladesh hemp can be named, so that the experience gained from international trade has shown a slight decline in global prices of these materials, once an exporter countries with balance of payments imbalance so that the economic life of them are threatened with destruction. In less developed countries, foreign exchange earnings are generally based on one or two agricultural products or raw materials that are more severely affected instability and cost arising from this instability is very high. To reduce and eliminate this instability there will be variations in exports (non-commodity focus) and also to supply them to various markets in the world (Geographic decentralization) (Goharian, 1995).

LITERATURE REVIEW

The export-led growth model Falasy is due to the nationality of the investment, exports and the impact of investment on economic growth, the positive role of exports on growth is emphasized. The model is summarized as follows:

$$\frac{\Delta y}{y} = \frac{v+1}{b+m} * \frac{x}{y} + \frac{\alpha - \mu - \beta}{B+m} \quad (1)$$

In which Y the real product, X exports, b marginal propensity to save, m the marginal propensity to import, and α, β and μ are respectively fixed values ??of the functions of investment, savings, and import. According this equation, if the ratio X/y is greater, the total product will be developed.

In the Keynesian model due to the deficiency of aggregate demand and high power of supply side in economy, the ratio of exports increased spending, the growth is significantly affected. Keynesian model is as follows:

$$\Delta y = \frac{1}{1 - c(1-t)\frac{\alpha k}{h}} * \Delta x \quad (2)$$

where c is the marginal propensity to consume, t the tax rate, α derived from investment of money demand to income derived from interest rates, and k and h is the derivative of money demand to interest rates (Branson, 2004).

The growth means enlargement. Something can be enlarged depending on its length, weight, surface, or volume to be. However, growth is a quantitative concept. For example, when we talk about growing a plant, the production value of the factory and so on, our purpose is an increase. The definition of economic growth, as a criterion for defining a more precise measure of economic status, is also true that economic growth is continuously increases the production of a society. In other words, economic growth is an increase in real per capita national product in the country over a long period (Roozbahan, 2004).

Economic growth can be achieved under the influence of two groups of factors:

- Existence of more resources for the community (increasing the quantity of production factors).
- Increasing the use of appropriate community resources-a more appropriate allocation of resources or increasing the quality of production factors.

As mentioned earlier, economic growth means increasing of GDP, and GDP increased in direct correlation to the amount of labour and capital in the community. The high increase in GDP is possible in three ways:

First: Tthe amount of labour increases (increasing the quantity of production factors)
Second: The amount of capital increases

Third: Iincrease in efficiency and productivity of capital and labour per unit of capital or increase production per unit of labour used in the production process

There are many studies about the non-oil exports and economic growth, that here we briefly mention some of them.

Adam Smith, the founder of classical economics, had believed that the main source of wealth is the human work. Smith in the first line of his book- the wealth of nation; about the nature of wealth - had been write about the basic motif and that all things necessary and useful for the preparation of the goods and services. People, who are used to produce the products, include direct labour and all the things that can be purchased by it from the outside. Smith had believed that an increase in wages, which cause more force and staff health and life expectancy of a professional lead to do more work. Though smith was believed that the main reason for the expansion of industrial revolution is competitive conditions in the economy and so he has emphasized the lack of government intervention in economic activities. In the classical theory of employment, labour market was a competitive market and full employment has been assumed. The only variable factor of production in the classical model is human force. Capital input -the device - is absorbed in the labor factor so it does not cause unemployment. Thus, classical economists believe that the equilibrium is always stable at full employment. The emergence of involuntary unemployment in the economy is If voluntary unemployment guilty to the neck of the working people who have stretched their. The classical model of growth can summarized as follow:

$$g = \frac{hP}{w} - 1 \tag{3}$$

In this relation g, h, P, and w are respectively growth rate, active population ratio, productivity of labour, and wage.

The incidence of major recession and vast unemployment, cause a sceptic and hard questions on the classical theory of growth and had begun preparations for the construction of another school. Old classical view is that unemployment is a macroeconomic issue in the area. The classical terms of involuntary unemployment is a short-term phenomenon that is the difference between prices and wages and rising real wages, resulting in involuntary unemployment occurs. Wage levels should be reduced classical thought and involuntary unemployment in the economy there. Except for those out of work and the time interval between the loss of jobs and are unemployed find new jobs.

Consecutive economic crisis and expand unemployment among people who seeking job -that absolutely not interpret natural unemployment- many critics of the classical theories proposed. Before the beginning of the twentieth century, the reaction appeared to adverse economic conditions. In addition to the work of socialists without the unfair distribution of income were the attention and emphasis. But among these ideas; the ideas of John Mynard Keynse had created a revolution and transformation in particular economic thought. Socialist critics of classical theories, rejected capitalism and called for the creation of new economic and social spheres but Keynse's demanding reform capitalism shake hard and fluctuating decline be continued with more coherence and strength of this system.

Keynes believed that the twentieth century, there is no perfect competition conditions and quality and quantity of market foundation has changed. Full employment equilibrium, is the spontaneous and always in the labour market there is no involuntary unemployment. Because there is money illusion near the workers and nominal wages are inflexible. According to Keynes, willingness of worker to accept less money is not necessarily the solution for unemployment. However, because of reduction in money wages, and ultimately lowers the cost of production at the company will increase production and employment. But if decrease wages in all of firms, ultimately aggregate demand will reduce and will arise the serious negative impact on investment and employment.

His comments contrast with the classical labour supply function as direct monetary compensation. Keynes showed that money wages instead of price decreasing may reduce the tendency to undermine investment. According to the theories of Keynes and his followers, there is insufficient investment and the liquidity trap can be prevented from full employment equilibrium. So government intervention in economic affairs applying financial policies is the only scientific and practical means for moving the economy toward full employment. As a result of Keynesian models we can refer to Harod-Domar relation, as follows:

$$g = \frac{s}{k} \tag{4}$$

In this relation g, s and k are respectively growth rate, marginal propensity to save, and capital coefficient.

Theoretical foundations of non-oil exports: The term of export is derived from the conceptual meaning as to ship the outputs out of the port of a country. The seller of such goods and services is referred to as an "exporter" who is based in the country of export whereas the overseas based buyer is referred to as an "importer". Any output,

transported from one country to another country in a legitimate fashion, typically for use in trade. Export goods or services are provided to foreign consumers by domestic producers. Export of commercial quantities of goods normally requires involvement of the customs authorities in both the country of export and the country of import (Wikipedia). In fact the export is the foreign demand for goods produced by home country. In national accounts "exports" consist of transactions in goods and services (sales, barter, gifts or grants) from residents to non-residents. The exact definition of exports includes and excludes specific "borderline" cases. A general delimitation of exports in national accounts is given below:

- An export of a good occurs when there is a change of ownership from a resident to a non-resident; this does not necessarily imply that the good in question physically crosses the frontier. However, in specific cases national accounts impute changes of ownership even though in legal terms no change of ownership takes place (e.g. cross border financial leasing, cross border deliveries between affiliates of the same enterprise, goods crossing the border for significant processing to order or repair). Also smuggled goods must be included in the export measurement.
- Export of services consists of all services rendered by residents to non-residents. In national accounts any direct purchases by non-residents in the economic territory of a country are recorded as exports of services; therefore all expenditure by foreign tourists in the economic territory of a country is considered as part of the exports of services of that country. Also international flows of illegal services must be included.

National accountants often need to make adjustments to the basic trade data in order to comply with national accounts concepts; the concepts for basic trade statistics often differ in terms of definition and coverage from the requirements in the national accounts:

- Data on international trade in goods are mostly obtained through declarations to custom services. If a country applies the general trade system, all goods entering or leaving the country are recorded. If the special trade system (e.g., extra-EU trade statistics) is applied goods which are received into customs warehouses are not recorded in external trade statistics unless they subsequently go into free circulation in the country of receipt.
- A special case is the intra-EU trade statistics. Since goods move freely between the member states of the EU without customs controls, statistics on trade in goods between the member states must be obtained through surveys. To reduce the statistical burden on the respondents small scale traders are excluded from the reporting obligation.
- Statistical recording of trade in services is based on declarations by banks to their central banks or by surveys of the main operators. In a globalized economy where services can be rendered via electronic means (e.g. internet) the related international flows of services are difficult to identify.
- Basic statistics on international trade normally do not record smuggled goods or international flows of illegal services. A small fraction of the smuggled goods and illegal services may nevertheless be included in official trade statistics through dummy shipments or dummy declarations that serve to conceal the illegal nature of the activities (Wikipedia).

According to economic ideas' history, the theory of international trade and commercial policy is one of the oldest branches of economic thought. Exporting is a major component of international trade, and the macroeconomic risks and benefits of exporting are regularly discussed and disputed by economists and others. Two views concerning international trade present different perspectives. The first recognizes the benefits of international trade. The second concerns itself with the possibly that certain domestic industries (or labourers, or culture) could be harmed by foreign competition.

Methods of export include a product or good or information being mailed, hand-delivered, shipped by air, shipped by boat, uploaded to an internet site, or downloaded from an internet site. Exports also include the distribution of information that can be sent in the form of an email, an email attachment, a fax or can be shared during a telephone conversation.

Exports and free trade: The theory of comparative advantage materialized during the first quarter of the 19th century in the writings of 'classical economists'. While David Ricardo is most credited with the development of the theory (in Chapter 7[12] of his Principles of Political Economy, 1817),[13] James Mill and Robert Torrens produced similar ideas. The theory states that all parties maximize benefit in an environment of unrestricted trade, even if absolute advantages in production exist between the parties.

In contrast to Mercantilism, the first systematic body of thought devoted to international trade, emerged during the 17th and 18th centuries in Europe. While most views surfacing from this school of thought differed, a commonly argued key objective of trade was to promote

a "favourable" balance of trade, referring to a time when the value of domestic goods exported exceeds the value of foreign goods imported. The "favourable" balance in turn created a balance of trade surplus.

Mercantilists advocated that government policy directly arrange the flow of commerce to conform to their beliefs. They sought a highly interventionist agenda, using taxes on trade to manipulate the balance of trade or commodity composition of trade in favour of the *home country*. (Wikipedia)

Export strategy: is to ship commodities to other places or countries for sale or exchange. In economics, an export is any good or commodity, transported from one country to another country in a legitimate fashion, typically for use in trade.

Statistical data and market reports: Data on the value of exports and their quantities often broken down by detailed lists of products are available in statistical collections on international trade published by the statistical services of intergovernmental organisations (e.g., UNSTAT, FAOSTAT, OECD), supranational statistical institutes (e.g., Eurostat) and national statistical institutes.

To promote exports, many government agencies publish on the web export market reports by sector and country : USCS and FAS in the United States, EDC and AAFC in Canada, Ubifrance in France, UKTI in the UK, HKTDC and JETRO in Asia, Austrade and NZTE in Oceania. Through Partnership Agreements, The Federation of International Trade Associations publishes studies from several of these agencies (USCS, FAS, AAFC, UKTI, HKTDC), as well as other non-governmental organizations on its website Global Trade.net.

Non-oil exports of Iran's economy: Iran's non-oil exports have surpassed 13.2 billion dollars during the first four months of the current Iranian year, says Iran's Minister of the Economy. Hosseini said on Tuesday that the figure reflects a 42.5% increase in value of Iran's non-oil exports in the first four months of this Iranian calendar year (beginning March 21), compared to the same period last year.

The minister added that the country also imported about 18.4 billion dollars of goods during March 21 and July 22 -- down 3.5% compared to the same period last year. Hosseini noted that the implementation of subsidy reform plan and the increase of the country's production capacity led to the decrease of Iran's imports. Last month, Iran's President Mahmoud Ahmadinejad said that the oil-rich country is prepared to increase its non-oil exports to more than 45 billion dollars in the current Iranian year.

President Ahmadinejad went on to say that Iran's non-oil exports surpassed 30 billion dollars in the past year. Iran's non-oil export items mainly include gas condensates, mineral fuels, chemical products, plastics, fruits, nuts, fertilizers and carpets.

The International Monetary Fund (IMF) said in its latest report that Iran's economy grew by 3.2% in 2011, which is by far higher than earlier reports on the country's economic performance. The IMF said Iran was successful in containing inflation in the aftermath of its subsidy reform plan falling from an average of 25.4% in 2008-09 to an average 12.4% in 2010-11. The organization also hailed the Iranian government's economic reforms which include distribution of monthly cash reimbursements, targeted at the poorest Iranians, to replace subsidies.

The measures will move as much as $60 billion in subsidies, or 15% of Iran's gross domestic product, the IMF said, adding that they will “increase the efficiency and competitiveness of the economy, improve income distribution, reduce poverty and help Iran unlock its full growth potential.” The subsidy reform plan, which was implemented in October 2010, charts out how the Iranian government will gradually slash national energy subsidies over the course of five years, with low-income families being compensated directly with cash subsidies.

Non-oil exports and increase production capacities: According to theories and experimental results of research, actual production forms based on demand. Demand may be caused by internal or external factors. The lack of external demand will cause the production based on domestic demand. So despite the possible and potential supply, production capacity will not use fully. It is natural that the unused capacity can be used to satisfy the foreign demand.

Non-oil exports and job creating: Non-oil exports affects all economic variables and all part of economy especially employment. We can find the cases of non-oil exports effect on employment on the production, collection, packing, exporting and marketing. In the field of manufactured and agricultural production it is natural that only domestic demand is the production of unemployment until the equilibrium between supply and demand, can increase employment. On the other hand, if the products are also exported to foreign markets, the increasing demand for more goods produced, and therefore considered the possibility of providing more employment.

Background of research: There are many studies in the case of foreign trade and exports. *Keith* (2008) in a study entitled “The evolution of the world income distribution” has tried to examine is there tremendous disparity in the

levels of individuals' incomes across countries?. However, this disparity in per capita income has not always existed. In "The Evolution of the World Income Distribution," Keith (2008) Sill investigates some facts about the evolution of per capita income across countries and reviews a simple model that broadly captures the observed evolution of the world income distribution since 1800. He then discusses what predictions can be made about future cross-country distributions of income and some policy prescriptions that follow from our understanding of the past and our predictions about the future. And studied the relationship between income distribution and inventory of resources and foreign trade. The results in countries where workers have higher skills, less income inequality and it is theoretically valid when there are no trade barriers. If free trade is:

- Control of the business, inventory resources, as well as income inequality explains.
- Freedom of investment business in countries where income inequalities are reduced.
- The freedom of trade and income inequality in countries with abundant skilled labour force increases.

Fakhri and Ilaha (2010) investigates the impact of the real exchange rate on non-oil exports in Azerbaijan by applying Vector Error Correction Model. The estimation results suggest that real exchange rate of Manat has negative impact on non-oil export performance while non-oil GDP affects positively in the long- and short-run. Error correction term indicates that short-run fluctuation can be adjusted into long-run equilibrium relationship. Based on findings of the study can be concluded that appreciating real exchange rate is one of major factors that impede non-oil export growth. Since promotion of non-oil export is one of the urgent issues of the strategic economic policy of Azerbaijan Republic then findings of the study may be useful for policymakers.

Tazhibayeva *et al*. (2008) empirically assesses the impact of oil price shocks on the underlying non-oil economic cycle in oil-exporting countries. Panel VAR analysis and the associated impulse responses indicate that in countries where the oil sector is large in relation to the economy, oil price changes affect the economic cycle only through their impact on fiscal policy. Once fiscal policy changes are removed, oil price shocks do not have a significant independent effect on the economic cycle.

Kapsalyamova (2009) interesting stylized models that discuss the implications of the oil boom or oil export price increase on an oil-rich economy must involve a tension between effects that tend to boost oil sector and harm non-oil sector and effects that vice versa tend to boost non-oil sector and harm oil sector. This paper explores such models and examines at large the implications of the oil export price increase through the prism of interaction between these two effects. A central feature of the developed stylized models is that they can distinguish between the two effects generated by the oil export price increase, namely the balance-of-trade effect and the import-competing effect. The balance-of-trade effect shows the response of the economy to the oil export price increase.

Harb (2008) has studied the long and short-run relationship between oil exports, non-oil GDP and investment in five major oil exporting countries. Its goal is to verify the effect of natural resources exports on the economic performance. It considers the effect of cross sectional correlations and uses the corresponding panel unit root tests to study the long-run characteristics of our series. The results show that resources' exports have no long-run relationship with the macro variables. A VAR analysis is used to estimate the short-run dynamics and shows that the effect of oil exports on those variables depends on local policies.

Mahvash (2008) has examined the structural competitiveness of oil-rich economies in sub-Saharan Africa relative to other major oil-exporting developing countries, and investigates reasons for systematic differences in the non-oil export performance across these economies. The analysis reveals that oil-rich Africa lags behind other oil-exporters in terms of diversification, global market share and the overall investment climate. The poor performance of their nonoil sector can be largely attributed to weak infrastructure and institutional quality. The results also show that institutional quality is a significant determinant of the extent to which oil abundance affects the competitiveness of the non-oil sector; thereby explaining the divergent experiences of oil-rich economies across the world. This implies that oil wealth does not necessarily weaken the non-oil tradable sector; countries may mitigate the impact of Dutch disease and benefit from oil booms if revenues are used prudently to reduce oil depend

Hallwood and Sinclair (1981) have assessed the nature of the economic relationships which evolved between members of the Organization of Petroleum Exporting Countries and the non-oil less developed countries in the several years following the oil shocks of 1973 and 1974. Since these relationships can be appraised only against the background of the world economic system and its institutions at that time, attention is first focused on those issues. It is argued that no simple or easily interpreted economic relationship existed between these economic groups of developing countries; all are tied up in the matrix of the wider world economic system.

Tamim and Thomas (2009) have applied the Permanent Income Model to the non-oil current accounts

of the major oil exporters to assess the extent to which national consumption decisions in these countries are made on the basis of permanent versus current income. A test of whether the return on oil wealth and oil balance coefficients sum to unity is accepted for all specifications that adjust the return on wealth for future population changes. For oil-exporting countries outside Africa, around half of the fluctuations in the private sector non-oil balance are driven by considerations of changes in permanent income (the return on oil wealth) rather than current income. By contrast, for the public sector and African countries permanent income has little or no effect.

Klein (2010) in the recent empirical studies have shown an inverse relation between natural resource intensity and long-term growth, implying that the natural resources generally impede economic growth through various channels (the natural resource curse). This paper departs from these studies by exploring the intersectional linkages between oil and non-oil sectors in a cross-country perspective. The paper shows that the applicability of natural resource curse across oil based economies should be treated with caution as the externalities of the oil sector highly depend on the countries degree of oil-intensity. In particular, the results show that, in low oil-intensity economies, the incentives to strengthen both fiscal and private sector institutions lead to positive intersectional externalities. In contrast, weaker incentives in high oil-intensity economies adversely affect fiscal and private sector institutions and consequently lead to negative intersectional externalities.

The impact of oil prices on exports earnings and economic growth is investigated in the case of Pakistan and India by using the data from 1971 to 2009. The JJ co-integration and FMOLS methods are employed. The empirical findings indicate that the long run relationship exist among the variables in both countries cases. The oil prices (also squared term) is impeded the exports earning, and human capital, physical capital and economic growth are enhanced the exports earning, and in the second economic growth model, the human capital, physical capita and oil prices are economic growth enhancing factors in the case of Pakistan. On the other hand in the case of India human capital, physical capital and oil prices positively related to exports earnings whereas economic growth negatively related to exports earnings. The results of economic growth model indicate that only human capital and physical capital are positively related to economic growth. (Nore-Saher, 2011).

DATA AND METHODOLOGY

This study reviews the non-oil exports and employment in Iran. In this study to examine the relationship between employment and non-oil exports from the figures relating to the non-oil exports, GDP, employment and inflation has been used. According to primary results, the logarithmic model gave the best estimate of coefficients, so the logarithmic variables are used. General model of this of Research are as follows:

Table 1: Fuller unit root test results in table Dicke added (ADF)

Variables	Statistic t	Critical amount (%)
GNP	2.14	2.96-5
NOE	3.71	2.96-5
L	3.86	2.96-5
K	2.59	2.96-5

$$LnEM = f(lnNOE, lnGNP, lnP)$$

LnEM the logarithm of employment, lnNOE logarithm of non-oil exports, lnGNP logarithm of GDP and lnP is the logarithm of price index. In this model employment is used as the dependent variable and other variables are used as independent variables. Time-series of annual statistical information required has been extracted by the Central Bank of Iran during the study period 1979-2009. Finally OLS method is used to estimate coefficients of the model.

Reliability and stationary test of variables: Stationary of variables of the unit root test for generalized Dicke Fuller (ADF) is used. In this test hypotheses are as follows:

H_0: Transience exist
H_1: Transience does not exist

If the hypothesis is rejected, the hypothesis is non-stationary series will be stationary series. Accept or reject the hypothesis test is based on the t statistic. If the absolute value of the t statistic is greater than the critical value, the hypothesis can be rejected based on non-stationary. And the series will be stable. The unit root test in Table 1 is shown. Dickey-Fuller (DF). Fuller unit root test results in Table Dicke added (ADF)

According to Table 1, ADF test results on the variables, any variables other than p (inflation) are at the stationary level. Because the absolute value of t statistic is larger than the critical value at 5% level, so as some of the variables I(0) and others are not as stationary level, (i.e., I(1) or I(2) are) the convergence test should be performed on variables.

Independent sample in OLS Engel-Granger convergence between variables can be used for diagnosis. Engel-Granger unit root tests on the waste model does, that way if the waste (u), I(0) are. If all the variables I(d), but variable, U, I(b) is a condition that b is smaller than d (b<d) The series will converge. Parasite test-showed Grinjir I(0) model is a waste.

Tests to estimate the model using OLS White independent sample test for heteroscedasticity is used. To test this hypothesis:

H_0: No heteroscedasticity
H_1: Presence of heteroscedasticity

Accept or reject this hypothesis based on F statistics test and also the least likely to be confirmed. If the F statistic is accepted, the model is no heteroscedasticity. White test statistic F and (F) Prob as the following shows.

Prob (F-statistic) = 0.08

F-Statistic = 2.12

Note that F statistics greater than 2 and less than 5% is likely, therefore, the hypothesis cannot be ruled out is no heteroscedasticity.

RESULTS

Eviews software output estimated by OLS method of adding variables to the model and eliminates heteroscedasticity in the Table 2:

LNEM = 10984376+3.35LNGNP+
426.63LNNOE+88343.53 LNP+0.92MA

t−value (30.23) (2.82) (2.70) (5.69) (10.55)

Table 2 shows the estimated value of coefficients and parameters the model via OLS method. The other statistics such as t-statistic and F-statistic are reported. So these statistics can help us, if we want to test the significance of a particular factor. For example if the absolute value of the t-statistic is greater than critical value of t, the coefficient is significant. Otherwise the coefficient is not significant and the variable cannot have a significant effect on the dependent variable.

Thus according to Table 2 and the t-statistic associated with each of the independent variables, the coefficients are all significant and all of independent variables have a significant effect on the dependent variable.

Also in this table, statistical quantities such as the coefficient of determination and standard deviation of wastes and other items are calculated. The quantity tables Durbin Watson statistic (DW) is used to detect the presence or absence of autocorrelation of the disruption sentences. Due to (DW = 1. 51) in the table the disturbing statements of solidarity approximately is solved adding MA (1) to the model.

Table 2: Detailed results from estimating the model using OLS:
Dependent variable: GNP, Method: Least squares
Date: 07/25/10 Time: 13:14, Sample (adj): 1357 1386
Included observations: 30 after adjustments

Variable	Coefficient	S.E	t-statistic	Prob.
C	36780.72	38926.38	0.944879	0.3534
NOE	8.741909	3.654035	2.392399	0.0243
K	0.347552	0.076158	4.563546	0.0001
L	-0.012635	0.004758	-2.655393	0.0133
R-squared	0.930758	Mean dependent var		247703.4
Adj R-squared	0.922768	S.D. dependent var		90142.70
S.E. of regression	25051.16	Akaike info criterion		23.21879
Sum squared resid	1.63E+10	Schwarz criterion		23.40562
Log likelihood	-344.2819	Hannan-Quinn criter.		23.27856
F-statistic	116.4981	Durbin-Watson stat		0.854211
Prob (F-statistic)	0.000000			

Null Hypothesis: U has a unit root; Exogenous: Constant Lag Length: 0 (Automatic based on SIC, MAXLAG = 7)

	t-statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.495616	0.0013
Test	Critical value	
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

*: MacKinnon (1996) one-sided p-values

Augmented Dickey-Fuller Test Equation.
Dependent Variable: D (U)
Method: Least squares Date: 07/25/10 Time: 09:21
Sample (adjusted): 1980 2008 Included observations: 29 after adjustments

Variable	Coefficient	S.E	t-statistic	Prob.
U (-1)	0.854237	0.190016	-4.495616	0.0001
C	0.094238	1.399708	0.067327	0.9468
R-squared	0.428094	Mean dependent var		0.121168
Adjusted R-squared	0.406912	S.D. dependent var		9.787532
S.E. of regression	7.537591	Akaike info criterion		6.944154
Sum squared resid	1534.013	Schwarz criterion		7.038451
Log likelihood	-98.69024	Hannan-Quinn criter.		6.973687
F-statistic	20.21057	Durbin-Watson stat		1.853060
Prob (F-statistic)	0.000118			

The R-Square is another important statistic in table that penetrate the coefficient of the model. The value of this statistic that the percentage of change in the dependent variable explained by independent variables is given in the table R-Square amount equals to 0.98.

Proposals for the development of non-oil exports, according to research results:

- Efforts to strengthen the private sector and NGOs involved in maintaining the balance of exports and trade with other countries to expand trade and commerce activities.
- Strengthening of cooperation and expertise to enhance and improve policies support and effective

participation and empower the private sector in export markets.

- Privatization of state enterprises and export-related public enterprises in terms of Article 44 of the constitution and facilitate the participation of multinational companies in the field of foreign trade through the country to attract foreign investment.
- To maintain export competitiveness through exchange rate adjustment and inflation.
- Strengthening productive interactions with the world balance of political and economic relations.
- Identifying products and platforms for the promotion of export oriented units and expand the capabilities of competitive products and enterprises.

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