

## A Survey of the Effects of Exchange, Commercial and Monetary Policies on Iran's Industrial Activities Export Supply ISIC Rev2 Codes

Mehdi Riazat<sup>1</sup>, Dr. Saeed Abdolmanafi<sup>2</sup>, Amir Ghafari<sup>3</sup>, Mohammad Ali Shirovi<sup>4</sup>

<sup>1</sup>Department of Accounting, Golpaygan Branch, Islamic Azad University, Golpaygan, Iran

<sup>2</sup>Tehran University, Tehran, Iran

<sup>3</sup>Payam Noor of Golpaygan, Iran

<sup>4</sup>University of Isfahan, Iran

---

### ABSTRACT

With regard to the developments in the industrial section, the effects of exchange, commercial, and monetary policies is a fundamental issue. The present study examined the effects of above policies on Iran's industrial activities export at the level of ISIC. Rev2 codes for the period 1975-2011 through the channel of effective exchange rate, balanced export tariff rate, and real money supply. In addition to the above variables, in this study export supply price elasticity has been estimated. The estimation of these equations has been carried out using ordinary least square (OLS) method. This study is different from the previous studies and also measures the above effects based on the recent statistics. The estimated results show the strong negative effect of tariff on industrial activities export supply and indicate that the positive effect of an increase in export effective exchange rate is about half of the effect of tariff. Therefore, according to Edwards (1988), imposing higher tariff may result in more decrease in export. Also, the estimation of export supply price elasticity indicates an export supply restriction.

**KEYWORDS:** Export, export effective exchange rate, tariff rate, export price.

---

### 1. INTRODUCTION

It is obvious that the export growth of various industrial activities may have an effect on the growth of national and foreign exchange revenue and save Iran from heavy dependence on oil export and single-product economy. From 1990, the beginning of the first Islamic Republic of Iran development plan, to the present, much emphasis has been put on export growth and growth strategies based on exports. With regard to the developments in the above-mentioned section, one of the fundamental issues that have attracted the attention of economists is the effect of foreign exchange policies such as money value decline on the industrial section. The effect of foreign trade policies on the economic consequences of money value decline made some economists such as Kroger, Mikhaeli, in their analysis of money value decline and its consequences, prefer effective exchange rate over nominal foreign exchange rate which includes, in addition to foreign exchange rate, foreign trade elements (trade profit, customs rights, subsidy, etc.). Based on their studies in developing countries, official exchange rate is not a good index for the analysis of money value decline policies and their economic consequences; instead they have emphasized the use of effective exchange rate as a good index (1,2). Regarding each country's economy, due to the fact that for many years after the Revolution separate foreign exchange rates has been determined for imports and exports, the use of effective exchange rate- which practically results in two different rates namely, import effective exchange rate and export effective exchange rate is of greater importance. Using simply one exchange rate, which means the same and simultaneous variations in foreign exchange rate for export and import, is not reasonable when there are double rates and it makes the results of analysis less reliable (3).

According to Edwards (1988), effective exchange rate is not the only factor in determining export volume, imposing higher tariffs as a commercial policy may result in a decrease in export. Therefore, for a successful growth in industrial activities export, attention should be paid, in addition to foreign exchange rate effects, to supportive effects against imports and this issue, the purpose of this study, should be considered in economic planning (4).

The uniform definition of export effective exchange rate presented by economists is: the amount of national currency units which exporters gain against one dollar export. It is calculated through this formula:  $EERX=ER(1+S-T)$  where EERX stands for export effective exchange rate, ER stands for export exchange rate, S is export subsidy rate and T is import tax rate. For estimating export tax rate and export subsidy rate, two methods were used, namely simple and balanced (based on import quotas) means. *Helleiner* (1972) defines average non-weighted tariff rate as the proportion of total import tariff value to total import value. Although in this definition we have to deal with bias resulted from ignoring weights, its use has a longer history (5).

---

\*Corresponding Author: Mehdi Riazat, Department Of Accounting, Golpaygan Branch, Islamic Azad University, Golpaygan, Iran.

Mikhaeli (1975) also states that if there is not enough information, this method should be selected (2). Now, after offering a simple definition of effective export exchange rate, its relation to production and export is explained; generally national currency value decline has both negative and positive effects.

- Positive effects resulted from increasing export and supply growth for national products due to an increase in the prices of imported products.

- Negative effects resulted from intermediate and capital imported products becoming more expensive, particularly regarding the economies in which production is heavily dependant on import production factors and technology degradation due to a decrease in import of capital products.

Given these positive and negative effects, Barrow (1979) and Lizondo & Montiel (1989) recognize the effect of money value decline on production and export as uncertain (6, 7)

Branson (1986) and Buffe (1986) are of the opinion that due to the fact that in developing countries, in a considerable part of investments, imported intermediate and capital products are used, money value decline has a contractionary effect on production(8,9).

Javorcik Goh, Chor-Ching (2005) also states that in the short run, money nominal value decline has an expansionary effect but its effect is negative in the long run due to an increase in contractionary effects(10).

As is evident in the above-mentioned theoretical view points, the exchange rate is considered the same for import and export.

In economies which use dual exchange rate, effective exchange rate can be used instead of exchange rate. Of course, the general method of analysis is not much different, an increase in export effective exchange rate gives rise to higher prices for intermediate and capital commodities and as a result it has a contractionary effect on production and increases the tendency toward the production of imported commodities in Iran (expansionary effect). With regard to export, theoretically, based on Dornbush model, increasing export effective exchange rate enhances export in two ways: on the one hand, it increases export commodities prices, on the other hand, although it increases non-commercial commodities prices, generally, real effective exchange rate increases. According to Dornbush model, export and import commodities domestic prices can be shown by  $EERX.P_f$  ,  $EERM.P_f$  using a three-section model (export, import, non-commercial or national commodities). ( $P_f$  shows exchangeable commodities foreign

prices). It is evident that increasing  $\frac{EERM}{EERX}$  increases the relative prices of import commodities compared to export commodities and has a negative effect on export(11).

In recent growth and trade literature, a great emphasis is put on the positive relation between commercial liberalization, import and export growth, and productivity growth. Many articles practiced efficiency or some indices of economic performance on an index of economic openness and other variables gained from growth model studies and they have emphasized a positive relation. In all relevant studies in published literature there is a mention of the point that supporting one section leads to overflowing in other sections and has negative effects on the performance of these sections. In line with these issues, the relation between commercial performance of business and efficiency growth is the topic of *Bernard, Jensen and Schott* (2002), *Mittz* (2002) and *Yeaple and Stephen* studies. They show that with a decrease in commercial disbursement such as tariff and transportation disbursement, the productivity of businesses increases due to the reallocation of activities among the businesses of an industry and at the same time businesses turn into exporters or increase their exports, otherwise they are destroyed or the exporting businesses with higher productivity become even bigger and they stand a higher chance for survival compared to non-exporting businesses. Furthermore with an increase in competition as a result of liberty, businesses should reconstruct themselves, increase productivity which leads to higher benefits. In addition, liberty results in a drop in imported input disbursement which increases the business benefits again(12,13,14). Based on his studies, *Lens Taylor* claims that the strategy of commercial liberty plays no role in developing countries (15), against this claim economists such as *Liang and Helleiner* have analyzed the issue that export growth resulting from commercial liberty decreases the pressure of external change effects on national economy and increases the production of capital commodities and export and results in economic growth (16, 5).

Formerly, in the field of foreign studies, *Milner* (1990) showed that there was a positive relation between export effective exchange rate and the export of some groups of industrial commodities in India (17).

It is worth mentioning here that export supply and demand functions most often should be estimated as a simultaneous equation system but in this case study due to the fact that Iran is considered a minor exporter and a price receiver in the world markets of industrial commodities, its demand function forms an approximately horizontal line and foreign demand elasticity is very high for export commodities in this country. Therefore, this study is limited to the estimation of export supply function for industrial commodities at the level of two-digit ISIC codes and examined the export supply function of industrial activities on export effective exchange rate as an exchange policy instrument, import balanced tariff rate indicating commercial policy, real money supply as a monetary policy and export price.

Thus, comparing to trade and growth literature, instead of using openness index, export has been put directly against tariff. The theoretical bases of this article, indeed, explains the export supply function for countries specified in Goldstein and Khan (1978,1986) and Behar and Edwards (2004) and gained from the optimization of consumers and producers (18, 19, 20).

The organization of this study is as follows. In the first section the theoretical bases and popular literature have been investigated. In the second section the statistical sources and the population under study has been determined. In the third section the industrial activities' export has been briefly reviewed. In the fourth section, the regression models has been presented and analyzed. Finally, the conclusion and policy making recommendations have been presented.

Furthermore, different industrial activities based on the second edition of international standard categorization of economic activities (I.S.I.C, Rev2) presented in table1.

Table1. different industrial activities based on (I.S.I.C, Rev2)

Code	Industrial activities
31	Drinking & food industry
32	Textile production industry
33	Timber and timber products industry
34	Paper, cardboard, printing and publishing industry
35	Chemical industry, oil, coal, rubber and plastic industry
36	Non-metal ore products except for oil and coal
37	Basic metals productions industries
38	Machinery, equipments, tools and metal products industry
39	Miscellaneous industry

**I. Commercial and exchange policies and industrial export process (1974-2011)**

Except for the subsection 35, the trend of export is almost the same for other subsections (diagram 3-1). In this diagram the sections are identified in an order with i-1 to i-9. Generally speaking, from the early years of Islamic Republic of Iran's development plan, the exchange policy became single rate, tariff decreased, exchange pact was practically eliminated, price disorder resulted from the war was modified and as a result industrial export increased but before this time, the Revolution and the war had a very negative effect on it. This increasing trend was reversed and export seriously decreased due to exchange crisis of 1996, reestablishment of exchange pact, controlling the exchange rate with non-market forces and decreasing it to 3000 rial, and high inflation in 1996 and 1997.

Due to the attention paid by the government to chemical and petrochemical industry, investment in this section has been developed. The export in this subsection has been constantly increasing from 1991 with minor fluctuations and reached 1.22 billion dollar in 2003 from 36.2 million dollar in 1991 and reached 6.8 billion dollar in 2007. Generally, from 1998 the export of other industries has been increasing and this is true about all of them (except for section 39).

The export of sections 34 and 35 in 2003 increased to the amount more than its maximum in the period 1993 to 1995. Other sections especially section 32 (textile, clothing and leather industry) and section 38 (machinery, tools and equipment and metal products) which are very important in the development process did not compensate for their loss and were unable to return to their climax; however, an increasing trend is recognizable. This process occurred when exchange became single rate in 2000, the dollar value doubled against rial, balanced export tariffs (diagram3-2) dropped and exchange pact was eliminated again but fundamental weakness in export performance of section 32 was not overcome and section 39 faced export drop. Generally, the main characteristic of Iran's industrial section is major fluctuations in production and trade which are due to turbulent nature of macro economics and improper adjustments in micro economics. Industrial production fluctuations may also occur in other countries due to removing industry process or international transfer of industries. This issue, for Iranian economy in which the industrial section contributes less than 20% to gross domestic product, is a sign of foreign shocks or adverse effects (in the time period under investigation). The stabilization of production environment for the industrial section is necessary. Therefore, the purpose of development plan is two-fold: stabilizing production and increasing export.

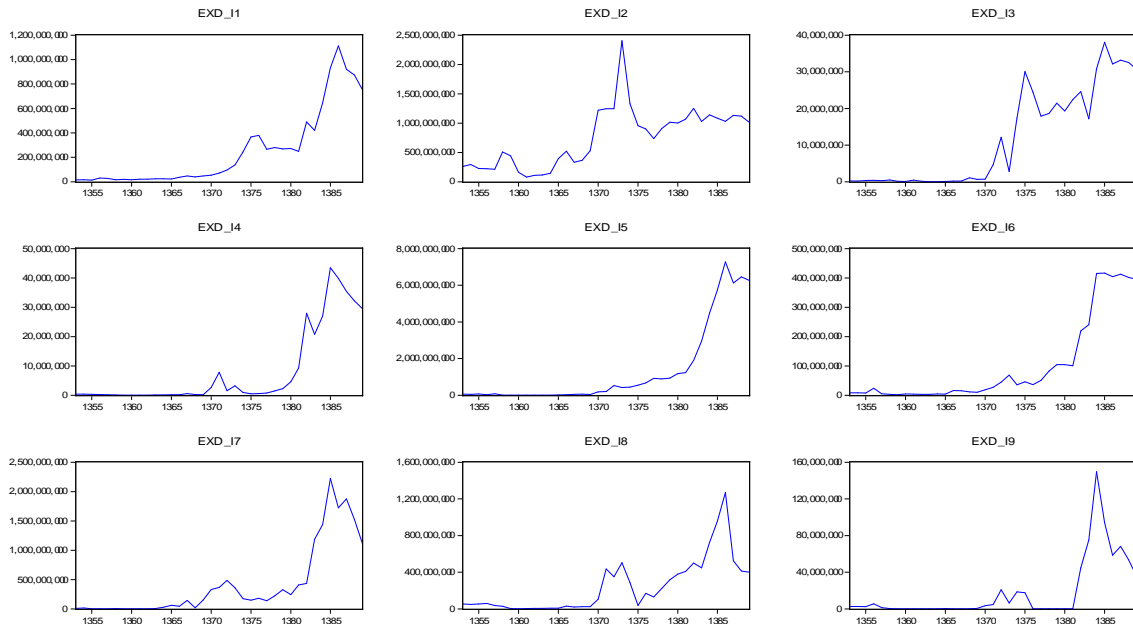


Diagram 3-1: Trend of Export- Research Processes

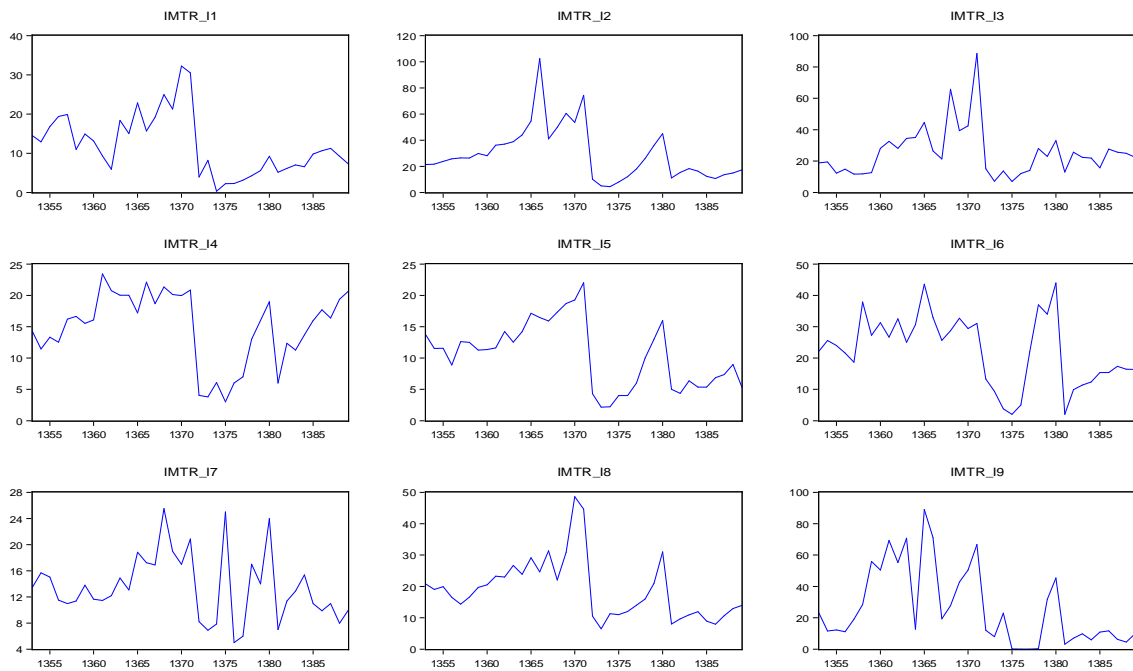


Diagram3-2: Trend of Tariff Rate- Research Processes

## II. Export supply function and its estimation

Considering the studies carried out about export, it can be said that the form of function and its descriptive variables are not the same and the form of export function itself is a function of some factors and it is different depending on the country in which the study is carried out, the group of commodities being exported, whether export supply or export demand is considered and, etc. Based on experimental studies, those studies which estimated export supply and export demand function simultaneously assumed that the relation between export demand and global demand growth is positive and the relation between the former and export price of the exporter country is negative compared to the price of substitute commodities. Considering this point and the assumption that the relation between price and quantities is simultaneous, the determining parameters of the direction of supply and demand can be estimated. However, in this study and many other experimental studies export supply function is estimated in the form of one equation and independent of export demand function due to the problems mentioned in the previous sections of the article.

The literature related to trade and growth, merges the two purposes of production stabilization and export growth into the trade and growth models in which commercial openness has a positive effect on (industrial) production growth. Presently, research has two main directions. In the first direction, the difference among the net domestic product or industrial production of different countries is attributed to their openness to international trade (which was reviewed in the introduction). In the second direction, attention is paid first to export micro economic relations of industrial firms and then to its relation with productivity in each firm (Bernard, Yens and Scott, 2003). The present study follows the second direction with minor changes. The export equation based on this approach and the studies carried out by Goldstein and Khan (1978, 1986) and Alberto Behar, and Lawrence Edwards (2004), Groggianni and Milesi-ferratti (1997) is explained as follows (19, 20, 21). In this equation, the export of firms (sections) is modeled using commercial policy (tariff), effective export exchange rate, real money supply and export price as most effective variables.

Export supply equation in this study is:  $X_{it} = \alpha_0 + \alpha_1 imtr_{it} + \alpha_2 er_t + \alpha_3 p_t + \alpha_4 m^s + \varepsilon_{it}$

In this equation:

$X_{it}$  : the export of subsections (i=031,...,039), (at dollar)

$imtr_{it}$  : import balanced tariff rate

$er_t$  : nominal effective exchange rate (the Central Bank)

$P_t$  : export price

M: real money supply

All variables are defined by logarithm. Table 2 shows the results of estimation.

**III. Investigation of experimental results of industrial export supply models:**

Before estimating linear regression using OLS method, the following tests are used to eliminate problems related to regression.

ADF test for the above-mentioned variables shows that all variables are I (1). Also, multi co-linearity test by Klein rule shows lack of any acute multi co-linearity in all estimations. The ADF test for the disturbing component confirms the reliability of error expressions and indicates the convergence of variables in the long run.

In order to know whether there is a problem of variance dissimilarity in regression, ARCH-LM test was used.

Due to the fact that the test statistic is less than  $\chi^2$  in the table, the hypothesis H is accepted and ARCH hypothesis is rejected, therefore, there is homogeneity of variance. A classic assumption is that the residues are normal. Therefore, the normalization test for the residues was carried out and showed that residues have normal distribution. In order to investigate the errors in describing regression pattern Ramsey test was designed. Based on the calculations, the null hypothesis is rejected and the assumption that the functional form is correct is not rejected.

The ordinary least square method minimizes the total squares of residuals. Using this method in case of the existence of correlation between error terms and descriptive variables leads to discordant estimations. Therefore, before accepting or rejecting these hypotheses the above test should be carried out.

**IV. Function estimation results:**

Table 2: Industrial Activities Export Supply Equation Estimation Results- Research Processes

	LEX 031	LEX 032	LEX 033	LEX 034	LEX 035	LEX 036	LEX 037	LEX 038	LEXD 039
C	3/06 (10/7)	1/19 (2/82)	4/6 (5/03)	7/6 (1/26)	4/08 (7/72)	4/01 (2/72)	8/3 (2/50)	6/8 (3/40)	4/6 (8/8)
LERE	0/20 (2/04)	0/33 (2/27)	0/45 (2/63)	0/27 (3/1)	0/51 (2/82)	0/40 (2/58)	0/43 (2/68)	0/40 (2/48)	0/34 (0/41)
$LP_i$	0/85 (4/02)	0/41 (2/85)	1/25 (5/21)	0/65 (2/1)	0/66 (4/09)	0/43 (2/28)	1/23 (3/08)	0/70 (3/62)	0/55 (2/11)
$LIMTR_i$	-1/05 (-3/94)	-1/28 (-3/58)	-1/34 (-2/50)	-1/49 (-8/8)	-1/8 (-5/5)	-1/26 (-2/3)	-1/95 (-3/4)	-1/65 (-2/9)	-1/57 (-2/0)
$LM^s$	-0/62 (2/41)	-0/42 (4/76)	-0/55 (3/32)	-0/59 (5/9)	-1/46 (2/5)	-0/55 (3/70)	-0/68 (3/11)	-0/44 (2/08)	-0/39 (2/6)
AR(1)	0/41 (3/59)	0/32 (2/81)	0/43 (3/17)	0/26 (1/91)	0/21 (4/39)	-0/23 (-3/6)	0/31 (2/01)	0/12 (1/46)	-0/47 (-5/83)
AR(2)	-	0/34 (2/7)	-	0/25 (2/97)	-	-	-	-	-
MA(1)	-	0/68 (4/69)	0/79 (9/23)	0/48 (2/22)	-	-	-	0/34 (2/84)	-
MA(2)	0/42 (1/99)	-	-	-	0/88 (21/3)	-	0/70 (6/57)	-	-
$R^2$	0/92	0/93	0/93	0/95	0/90	0/91	0/93	0/94	0/93
D.W	2/1	1/98	2/2	2/1	2/2	1/98	2/2	2/05	2/1
F	55/7	39/5	30	32/3	44/9	28	41	33/61	20

As it is shown in the above table, all export effective exchange rate coefficients are significant except for effective exchange rate coefficient for section 9 or code 039 (er-9). Insignificance of this coefficient is quite expected considering the weak export performance and improper economic structures in this section.

All numbers in the table are indicative of elasticity that is to say, for instance, with one percent increase in effective exchange rate in subsection and code (031), the export in this subsection increases 0.2%. As it is clear from the estimated effective exchange rate coefficients in supply equations, the estimated elasticities are positive which is an issue in accordance with scientific theories, but estimated coefficients are indicative of the minor effect of effective exchange rate on industrial export. The highest export supply elasticity in proportion to nominal effective exchange rate is related to code 035 (chemical and petrochemical industry) and the lowest estimated elasticity is for code 031 (food and drinking industry).

In the estimating model the export supply price elasticity of all subsections were positive and significant. The low estimated coefficient of the sections 032 and 039 is attributed to the weak performance of the two sections. As it was mentioned before, the export in these subsections seriously decreased from 1995 onward. Tariff rate coefficient is negative and significant for all subsections of industry, that is to say imposing tariff on imports leads to a drop in export. An increase of about 1% in tariff decreases 1% the export of each code. Generally, we came to the following conclusion and policy making measures by taking account of the results obtained from the estimation of export supply functions:

Commercial policies in the form of tariff rates which are used for curbing imports leads to a decrease in exports. The most important reason for this phenomenon is that imposing import tariffs at the upper level has a reverse effect on imports in Iran. Therefore, if through these years intermediate and capital input were needed for the production of export commodities, import fluctuations and investors' expectations had a negative effect on export commodities and export decreased due to low profit margin in export transactions. This is a source of negative effect of tariff on export. This issue is very important for chemical industry, basic metals industry, and machinery, equipments and tools industry because most of intermediate and capital inputs are in these sections.

Decreasing Rial value or increasing exchange rate may compensate for this negative effect to a lesser extent. Therefore, based on Edwards (1988) study which considers, in some cases, imposing tariff as an equivalent to decreasing exchange rate, the effect of anti-import commercial policies is more than the effect of increasing exchange policy (increasing exchange rate). In this case the policy making recommendation is to lift export restriction and give export rewards or subsidy to exporters in order to encourage them to more export.

Looking at exchange rate coefficient we come to know that export supply elasticity is low in proportion to this variable. Therefore, in order to increase export by decreasing national currency value or increasing effective exchange rate, a stable economic environment is needed. Because the negative effect of inflation, as the most important factor, results in the failure of the policy of decreasing national currency value for increasing industrial export.

It should be noted that a drastic increase in exchange rate leads to an increase in export commodities prices which may have a negative effect on export demand but, as it was said before, it increases industrial export supply. Therefore, the policy maker should make a balance between price competition policy and export supply growth which is possible by giving subsidy or export rewards. Another point is that the countries like Iran whose export consists more than 10% of oil and is a minor exporter of other commodities, has large export demand price elasticity, thus the price competition power of Iranian exporters is very high in the foreign markets. But as the estimations showed, Iran's export supply price elasticity is very low. In other words, the export main restriction comes from the supply section, that is to say there is no commodity for export or exporters lack enough motivation for export. It is recommended that the government curb inflation and control domestic demand by decreasing budget deficit and controlling liquidity and by so doing domestic products can compete for prices in the global markets. A cursory look at real money supply coefficients provides a reason for this claim because based on quantitative inflation money theory, whenever a phenomenon is simply monetary and inflation is high the competitiveness of domestic commodities decreases comparing to the same foreign commodities and as a result export decreases. The difference between domestic and trade partners' inflation rates results in extra valuation of national currency if it does not come with a proportionate change in exchange rate and this issue, considering price and cost, decreases the competitiveness of domestic commodities and the export and influence in the foreign markets. Whenever an increase in domestic commodities prices coincides with exchange availability, the tendency toward imports is reinforced and in case this issue happens along with import restrictions, the tendency toward smuggling is reinforced and in both cases domestic producers and their substitute import and export industry are damaged. The policy making recommendation is that, first, apart from financial discipline, monetary management and appropriate nominal anchor such as inflation purpose, technology changes, market mixing competition and competitiveness, privatization and private section development, thriving markets, customers' sensitivity to prices and generally a series of structural and organizational factors, doubtless, obtaining and enforcing clever and on time monetary policies is on of the main conditions for curbing inflation and controlling export. Second, main sources of increasing liquidity and inflation in Iran are, oil economic structure, oil-dependent budget and domination of budget on monetary phenomena, the issue which results in the inactivity of monetary policies. Considering sources of the monetary base in Iran it can be said that in the past and in case of expanding the government and budget, procuring

financial requirements of the public section and budget deficit and in recent years a change in foreign assets are the main factors for monetary base and liquidity growth in Iran. In this situation, the independence of the Central Bank, in legal terms, can not provide the necessary conditions for the independence of monetary policy. In this case, reformation and downsizing the government and budget, imposing financial discipline and developing financial markets, controlling methods and liquidity management along with eliminating financial repression conditions (which provides the ground for using banking system as a semi-budgetary organization) are among the main requirements for the Central Bank and monetary policy independence. Regarding supply and its inelasticity in the economic slowdown and investment conditions, there is no doubt that governmental and closed economic structures and also repressed and inefficient banking system and a series of factors which prevent forming an appropriate atmosphere for investment and private section development have had their own effects. Therefore, it is concluded here that, in order to break its stalemate, the Iranian economy should change from a closed and governmental economy to an open and competitive one and economic liberty and private section development and deploying market facilities along with downsizing the government and making it efficient should be accepted as fundamental principles of structural and organizational reforms in Iran. These issues are not new and the details of these structural, organizational and policy changes have been prepared and ratified in the third and fourth plans but practically there is not necessary responsibility for enforcing these plans. The plans and discussions about price stabilization, banking interest cut, and the like show the irresponsibility for doing prepared plans and resorting to guerrilla methods for running economy. Also, production increase policies may lead to a drop in the domestic demand pressure on commodity prices and finally it may be followed by an increase in export motivation which is one of the most important production increase policies in line with removing export obstacles, and reducing the distance between exporters and producers. This issue increases the possibility of transferring the effects of major economic policies (obtained to encourage export) especially monetary policies and it results in speeding up the reaction of export to monetary policies.

#### REFERENCES

1. Krueger A.O., (1978) "Foreign Trade Regimes and Economic Development; Liberalization Attempt: A Consequence" Cambridge Mass Ballinger for NBER.
2. Michaely M., (1975) "Foreign Trade Regimes and Economic Development" National Bureau of Economic Research Newyork.
3. Fang, Wenshuo and Lai YiHao , (2005) ; "Export Promotion through Exchange Rate Policy: Exchange Rate Depreciation or Stabilization?" ; University of Connecticut and Nevada.
4. Edwards, S. (1988); "Real and Monetary Determinants of Real Exchange Rate Behaviour", *Journal of Development Economics*, 29.
5. Helleiner G.K.,(1972) " International Trade and Economic Development" Panguin Books Inc, Australia.
6. Barro, R.,(1979) "Money and Output in Mexico, Colombia and Brazil In J.Behrman and J.Hanson (Eds), *short-Run Macroeconomic Policy in Latin America*", Cambridge, M.A. Ballinger.
7. Lizondo, G and P.J.Montiel.(1989) "contractionary Devaluation, in *Developing Countries: An Analytical Overview*, IMF Staff Papers 36.
8. Branson, W. (1986) "Theory and Macroeconomic Policy", Harper and Row, Publishers.
9. Buffe, E.F.(1986) "The Macroeconomic of Trade Liberalization" , *Journal of International Economics*, 17, No. 1.
10. Goh, Chor-Ching, and B.S. Javorcik (2005); "Trade Protection and Industry Wage Structure in Poland", NBER Working Paper, 11143.
11. Dornbush, R.(1947) "The Tariffs and Non-Trade Goods," *G.Intl. Economics* No.4.
12. Bernard, A.B. J. B. Jensen & P.K. Schott (2003); "falling Trade Costs, Heterogeneous Firms, and Industry Dynamics", *National Bureau of Economic Research (NBER)* .
13. Bernard, Andrew B, J. Eaton, J.B. Jensen, and S. Kortum (2000); "Plants and Productivity in International Trade", *National Bureau of Economic Research (NBER)* .
14. Melitz, Marc, J. (2002); "The Impact of Trade on Intra-Industry Reallocation and Aggregate Industry Productivity", NBER Working Paper, 8881.
15. Kruyman, Paul and Lance Tolyor, "Contractionary Effects on Development", *IMF papers* 22, 714-49.
16. Liang, N.(1992) "Beyond Imports Substitution, and Export Promotion, A New Typology Of Trade Strategies", *The Journal of Development Studies* Vol. 28, No. 3.
17. Milner, Chris,(1990) "Export Promotion Strategies," Loughborough University.
18. Goldstein, Morris and Mohsin S. Khan (1978); "The Supply and Demand for Exports: A Simultaneous Approach", *Review of Economics and Statistics*, 60 (2).
19. Goldstein, Morris and Mohsin S. Khan (1986); "Income and Price Effects in Foreign Trade", Chapter 20 of *Handbook of International Economics*, Ed. By Ronald W.J Jones and Peter B. Kenen.
20. Behar, Alberto and Lawrence Edwards, (2004); "Estimating Elasticities of Demand and Supply for South African Manufacturing Exports Using a Vector Error Correction Model", *The Center for the Study of African Economics, Working Paper Series*, Paper 204.
21. Groggianni, L. and G. M. Milesi-ferratti (1997); "Determinants of Korean Trade Flows and Their Geographical Destination", *IMF Working Paper*, WP/9/54.