



MACRO ECONOMIC SIMULTANEOUS MODEL FOR EGYPTIAN NATIONAL ECONOMY

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ABSTRACT

Gross national product (GNP) is considered as one of the important indicators that reflect the ability of national economy to achieve the main objectives of the state including creation of employment opportunities, development of export potentials, and positive contribution in reduction of the deficits in the balance of payments and the balance of trade. Analysis of the most important components of the gross national income is of considerable importance that enables the identification of changing values of individual components of the gross national product.

The study aimed at identifying causes of imbalance in the national economy through the following determination of the relative importance of Egyptian GNP and development of important economic indicators in the Egyptian national economy.

Analysis and identification of the most important economic factors affecting expenditure on consumption, investment, exports and imports are made through building single and multiple equation models aiming at identifying the most important economic factors affecting variables of the study. Moreover, forecasting the most are also made important variables until 2020.

Results obtained indicated that the household consumer expenditure in 2012 was equal to 158.5 billion Dollars representing 58% of the GNP, followed by Investment expenditure, representing 18% of GNP, followed by government expenditure, total exports and total imports representing 9%, 8% and 7%, respectively.

Results obtained proved that the most important economic indicators increased annually with different rates during the study period.

Studying of the mutual impact between GNP and the study variables through building an econometric model and applying two stage least square method. The model contains six equations for GNP, total investments, total imports, total exports, government expenditure, and household expenditure. In addition, an identification equation for the (GNP= household expenditure + Investment expenditure + Government expenditure + net international trade).

The study proved that while the most important determinants of the Egyptian GNP are total investments, total exports and imports factors, mostly affect total investment are total GNP, total Egyptian exports and exchange rate Egyptian Pound. In addition, factors determining total Egyptian Imports are total exports and the exchange rate of the Egyptian Pound. Moreover, factors determining government expenditure are total exports and households consumption. Furthermore, the household consumption is highly affected by GNP and total indirect taxes. Forecasted values of the study variables are obtained by estimating single equation trend model and simultaneous equation model. Results obtained indicated that the forecasted value of the Egyptian GNP in 2020 will be equal to 334\$ and 335 billion Dollars using single trend equation and simultaneous equation models, respectively. The forecasted total investment in 2020 is expected to be equal 64 billion dollars. The forecasted Total Egyptian imports and exports using single trend equation are 33.2, and 29.2, billion dollars, respectively. The forecasted values of total exports and imports in 2020 using simultaneous equation model are 32.8, and 830.1, respectively.

Regarding Government expenditure results obtained indicated that the forecasted government expenditure is expected to take values of 31.9 and 51.4 billion dollars using single equation trend model and simultaneous equation model, respectively. Results related to the forecasted household expenditure in 2020 is expected to take values of \$206.5 billion and \$334 billion using single equation trend model and simultaneous equation model, respectively.

Based on the research results, best forecasted values the study variables are obtained by using simultaneous equation models. This may be attributed to the fact that simultaneous equation mod-

els takes into account all variables as well as the interactions between variables.

Based on results the study recommend that the state would give the highest priority to economic policy that would lead to rationalization of household expenditure. In addition, aiming at reducing the Egyptian trade balance, policies that would lead to reduction of the gap between imports and exports by limiting imports and encouraging exports are highly recommended. Moreover, policies that increase and encourage investment, limit inflation, and control of prices of goods and services are expected to have positive impact on the Egyptian economy.