

## **A General Equilibrium Analysis of Inflation, Production and Consumption Effects of the Value Added Tax (VAT) in Iran**

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Received: 2018/6/13

Accepted: 2019/2/13

### **Abstract:**

Governments mainly obtain income from a variety of sources so as to support their expenditures. Among them, receiving tax from goods and services is one of the most important sources of governments' revenues. The Value Added Tax (VAT) has been thus considered in many countries around the world as a new tax method by creating a massive tax base. The VAT, as a multi-step tax applied on goods and services, is the taxation on the added value of the produced goods or provided services at the various steps of production and distribution. It is, indeed, obtained as a percentage of the price in each step in which the burden of taxation is on the final consumer. In effect, this tax is derived from the added value of firms as the difference between the earnings from the sale of goods and services and the total costs incurred in purchasing production inputs, excluding human resources. There are two general methods for calculating the VAT: cumulative and subtractive. Each of the cumulative and subtractive methods is, in turn, categorized in two ways: direct and indirect. On the other hand, the VAT can be applied in two different ways based on the principle of origin and destination. Depending on how the capital goods are purchased, in the base of VAT, this tax can be introduced in three different bases: the VAT on the basis of gross domestic production (production type); the VAT on the basis of

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net domestic production (income type); the VAT on the basis of consumption (consumption type). In Iran, in order to reform the tax structure, the VAT law has also been implemented experimentally since the second half of 2008, and many legal efforts have been made to convert it from an experimental legislation to a permanent one. The study of the effects of VAT on the macroeconomic variables has, thus, special importance. Accordingly, this paper investigates the implementation effects of the experimental law of VAT on the macroeconomic variables of Iran including inflation, Gross Domestic Production (GDP) and consumption. This quantitative research was, indeed, performed using a Computable General Equilibrium (CGE) model (Lafgren et al., 2002) which is often applied to examine a wide range of policy issues including tax policies. It can, in turn, provide a comprehensive framework for examining the effects of such policies. This model's equations were divided into four sections or blocks including price block, production and trade block, institution block, and system constraint block. Moreover, the necessary modifications were made to the standard model equations to align it with the Iranian economy. In the CGE model, the data source is usually a matrix called the social accounting matrix (SAM). SAM, indeed, as the square matrix where each account is placed in a row and column collision, examines the numerical information of the economy comprehensively. The last Iranian social accounting matrix is related to the year 2011, which was prepared by the Islamic Parliament Research Center of Iran in 2015. This matrix was, thus, used as a source of data in this paper. The economic activities were, then, divided into seven sectors as agriculture, oil, mining, industry, energy, buildings, and services. Policy analysis was, in turn, conducted in two scenarios including the VAT at the rate of 6% and 9%. In both scenarios, the VAT rate in the agricultural sector was set to zero. The results showed that the implementation of the VAT in Iran increased inflation, which, in turn, led to a decrease in the GDP and household consumption expenditure.

**JEL classification:** H25, D58, E31, E23, E21

**Keywords:** Value Added Tax (VAT), Social Accounting Matrix (SAM), CGE, Inflation, Gross Domestic Product (GDP)