

Measurement of National Income Value Added Method

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ABSTRACT:

A key instrument in economics, the value-added technique of measuring national income offers insights into the economic activity and performance of a nation. This chapter emphasizes the importance of the value-added approach in calculating national income while highlighting its uses, benefits, and drawbacks. The value-added technique allows for a thorough evaluation of economic activity since it captures the value contributed at every stage of production. It breaks down the contributions provided by various sectors and industries, allowing policymakers and analysts to comprehend the sectoral structure, recognize important industries, and gauge each one's relative contribution to economic growth.

KEYWORDS:

Economic Activity, Measuring National, National Income, Sectors Industries, Value Added Method.

I. INTRODUCTION

Value-added national income measurement is a crucial instrument for comprehending and evaluating a country's economic activity. Policymakers, economists, and analysts can use this method to evaluate economic performance, identify important sectors, and create effective policies since it offers insightful information on the contributions made by various sectors and industries. Numerous benefits of the value-added technique include thorough coverage, the avoidance of double counting, sectoral analysis, and cross-national comparability. In order to ensure a more accurate assessment of economic activity and prevent overestimation of national income, it captures the value contributed at each stage of production. It's crucial to understand the value-added method's limits, though. When utilizing this approach, it is important to be aware of the difficulties with data accessibility, capturing the informal sector, and ignoring externalities and income inequality. The accuracy and completeness of the national income measurement may be compromised by these constraints [1], [2].

The value-added technique is nevertheless a vital tool for analysts and policymakers despite its drawbacks. It offers insightful information on economic performance, makes sectoral analysis easier, encourages cross-national comparisons, and aids the creation and assessment of policies. In conclusion, the value-added method of measuring national income is a crucial technique in economics. It provides a thorough picture of economic activity, allowing for a fuller comprehension of sectoral contributions, dynamics of global commerce, and input-output linkages. Policymakers and analysts can make well-informed decisions, encourage economic progress, and take advantage of opportunities and problems inside an economy by being aware of its benefits and drawbacks. The national income can be determined using one of three approaches. These are listed below:

1. The net output method
2. The value-added technique.
3. The method based on the industry of origin.
4. Expenditure method.
5. Income method.

These techniques are described as follows:

Methods: Net Output, Value Added, Product, and Industry of Origin. This approach totals the net final output or net value created by all the enterprises over the course of a year to calculate national income. Steps for Value Added/Product Method National Income Estimation the steps listed below can be used to determine national income using the product method. Recognizing manufacturing units and grouping them according to industrial sectors the initial stage is to identify every manufacturing unit and group them into the primary, secondary, and tertiary industrial sectors, respectively[3], [4].

Calculating the net value added by calculating the gross output created by each firm, intermediate consumption, and depreciation, and net indirect taxes, net value added is computed. By multiplying the commodities produced by the businesses by their market prices, the gross value of output can be calculated. In other words, the value of gross output is determined by the combined sales and stock-value changes of all enterprises. The value of intermediate consumption, or the inputs that a company purchases from other production units, and depreciation are subtracted from the gross value of output to arrive at the net value added at market price. Additionally, we must subtract net indirect taxes in order to obtain net value added at factor cost. Indirect taxes less subsidies are referred to as net indirect taxes. Net domestic product at factor cost is calculated as the total net value added of all industrial companies located within a nation.

Estimation of Net Factor Income from Abroad

Estimating net factor income from abroad and combining it with net domestic product to produce national income, or NNP_{fc}, is the last phase. The difference between the factor income earned abroad by a country's citizens and the factor income earned domestically by foreigners is known as net factor income from abroad. Thus, national income, or NNP_{fc}, equals NDP_{fc} plus foreign factor income. Precautions in the Method of Product-Based Estimation of National Income While calculating the national income using the value-added approach, we must exercise particular prudence. While estimating national income, there are some elements that should be excluded and others that should be included. Residential structures are built by households for their own use, while factory structures are built by the business sector to produce things. These are fixed assets produced on one's own account, whose worth must be calculated using the current market price and included in the national income. Similar products are created for personal usage and do not reach the market.

They must also have their value determined using the current market pricing. Rent for owner-occupied homes is computed using imputed rent. Owner-occupied home rent is typically not calculated. National income must be approximated at the going market rate in order to be measured. Products that are worn out or torn out are sold by households, the government, and the private sector. These products are used. Secondhand products are not included in any transactions sale or purchase related to the national income because their value was already taken into account during the year they were produced. These don't involve any additional economic production. To measure national income using the income approach, we must remember to include the commission or brokerage gained from such transactions. The calculation of national income is also not to include any financial asset-related activities, such as the sale and purchase of bonds and shares. Such transactions don't increase the flow of goods and services or produce any new income. These claims are only paper transfers from one hand to another. For instance, when we purchase stock in a corporation, the money leaves our hands and enters the company's without any additional productivity[3], [4].

II. DISCUSSION

One of the cornerstones of economics is the value-added technique of measuring national income. It gives important insights into a nation's economic performance and activity, enabling analysts, economists, and policymakers to comprehend the contributions made by various sectors and industries. Capturing the value added at each stage of manufacturing is the main goal of the value-added technique. By just considering the additional value produced throughout the production process and excluding the value of all intermediate inputs, the problem of double counting is avoided. This

guarantees the dependability and accuracy of national income figures. The value-added method's extensive scope is one of its main features. It offers a comprehensive picture of the output of the economy by measuring the value added across sectors and industries. Understanding the sectorial structure of the economy and identifying the industries driving economic growth are made easier with the aid of this knowledge.

In addition, the value-added method offers sectorial analysis for analysts and policymakers. By dividing the value added by sector, it is possible to determine the relative importance of the various economic sectors. Making informed judgments about sector-specific policies, resource allocation, and economic growth plans need this knowledge. The value-added approach makes it easier to analyse global trade. It is possible to gain a better understanding of a nation's competitiveness and comparative advantages in international markets by assessing the value added by industries in the production of exported goods and services. Using this information, trade policies can be created to increase competitiveness and identify sectors that are export-oriented. Input-output analysis is also strongly related to the value-added approach. It makes it possible to examine cross-sectorial relationships and the consequences of shifting final demand or sectorial policies. Input-output models may calculate the direct and indirect consequences of economic shocks or changes in policy, offering useful information for forecasting and decision-making.

While the value-added method has many benefits, it is vital to be aware of its drawbacks as well. Accurately estimating national income can be challenging due to data availability issues, particularly when covering the informal sector. The technique also does not take income inequality and externalities into account, which limits its ability to fully capture the social and economic effects of economic activity. In conclusion, the value-added technique of measuring national income is an essential tool in economics. It offers thorough coverage, permits sectoral analysis, makes it easier to analyse global commerce, and supports input-output modelling. Making educated decisions and comprehending the complexities of an economy require an awareness of both its benefits and limitations. Policymakers and analysts can get important insights into the economic performance and structure of a nation by successfully utilizing the value-added technique, promoting sustainable growth and development [5], [6].

The Calculation of National Income

There are three methods for calculating a nation's national income. They come from the side of revenue, the side of output, and the side of expenditure. As a result, we can group these viewpoints into the following national income measurement techniques. Techniques for Measuring the National Income Product. Expenditure Method: Income Method.

1. Product Approach

In order to compute the National Income using this method, we add the amounts of production produced or services provided by the various economic sectors during the year. In this strategy, the output figure simply takes into account the value that each firm contributed to the production process. So, we employ the value-added approach. The GNP at factor cost represents the value-added production of the entire economy. However, this approach is unreliable because it only increases the value of products and services that are offered for sale or sold in the market.

2. Income Approach

With this approach, we total up all of the earnings from employment and asset ownership obtained before to taxes from all of the economic activities that contribute to output. As a result, it likewise uses the Factor Income technique. The unreported profits of the private sector and the trading surplus of the public sector businesses must also be included. However, we must remove items like sickness benefits, interest on the national debt, and other costs that do not result from economic activities [7], [8].

3. The Method of Expense

Using this method, the economy's total domestic spending is measured. Consumption expenditure and investment expenditure make up its two components. Consumer spending comprises purchases made by households for products and services as well as purchases made by businesses and government agencies. Investment expenditures are those made to create fixed capital, such as buildings, machinery, and other items.

Measurement of National Income Challenges

The following are some challenges involved in calculating the national income.

1. Conceptual challenges.
2. Statistical challenges.

a. Conceptual Challenges

1. Some products, like free services and goods that are intended for sale but are instead consumed by the seller, are difficult to value.
2. It might be challenging to distinguish between primary, intermediate, and final commodities at times.
3. It's never easy to decide what price to use to calculate a national product's monetary value.
4. Given that they generate a sizable portion of their income outside of India, should the national income of international corporations be included or excluded?

b. Statistical Challenges

1. We must employ the Index figures, which have their own inherent restrictions, in the event that the price level changes.
2. Statistics are based on sample surveys, thus they are not always reliable. Also, not all the data are frequently accessible.
3. Each nation uses a different methodology to calculate its national income. As a result, it is difficult to compare.

Precautions of the value-added method Intermediate items should not be added to national income since their value has already been incorporated into the value of final products. Double counting will occur if the value of intermediary items is added to national income once more. The sale and acquisition of used products is not permitted to be included: Because used items are already valued in the year they were produced, their worth shouldn't be added to the national income. The present flow of products and services will be disrupted by adding value to these items once more. However, because it is a productive service, any brokerage charge or commission paid on a transaction involving these products should be taken into account when calculating national income.

Domestic or self-consumption service production shouldn't be considered. The commercial worth of domestic services like housewives, etc., is difficult to ascertain. Consequently, the output of domestic services is not taken into account when determining national income. These services are created and consumed within a home and are not sold on the open market, hence they are regarded as non-market transactions. Paid services, such as those provided by maids, drivers, etc., should be clearly identified in the national income because it is simple to estimate their market worth. Products for self-consumption should be included. Self-consumption items are produced as part of the output of a fiscal year and are therefore included in the calculation of national income for an economy. However, because these goods are never offered for sale on the open market, their worth is assumed.

It is important to mention the estimated worth of any homes that people own. While those who own their homes do not pay rent, they nevertheless have access to the same housing services as those who rent their homes. As a result, the value of the homes that people own is accounted for in national income. For this, the value is established using an estimate of the rent for a house or other type of housing identical to it on the market. Imputed rent is another name for this anticipated rent. Changes in

stock or inventory must be taken into account: The national income of an economy must take into account changes in the value of its opening and closing stock or inventory. In other words, capital formation in the National Income includes the net increase in an economy's inventory.

Advantages of the Value-Added Method for Measuring National Income

The value-added technique of measuring national income has a number of benefits. Let's examine a few of these benefits: Coverage in Full: By accounting for the value added at each stage of production, the value-added technique gives a full measurement of national revenue. It allows for a more accurate estimate of overall economic activity by taking into consideration the value contributed by various sectors and industries in the economy.

- 1. Avoids Double Counting:** The value-added method has the advantage of not having to deal with the double counting problem. It ensures that just the additional value created in the manufacturing process is counted, rather than include the whole worth of intermediate inputs, by focusing on the value added at each stage of production. As a result, national income isn't overstated, and the final value of goods and services is better reflected.
- 2. Highlights Linkages between Industries:** The value-added method draws attention to the connections between different economic sectors. It enables analysts and policymakers to comprehend how various sectors and industries contribute to value creation overall. This data is useful for identifying the main economic growth drivers, evaluating sector performance, and developing focused policies to support economic development. Value-added methodology is compatible with other macroeconomic indicators since it is consistent with the structure of national accounts. It guarantees consistency in the estimation of national income, GDP, and other associated aggregates, enabling cross-temporal comparisons and global benchmarking.
- 3. Reflects Economic Structure:** The value-added approach also has the benefit of reflecting the economic structure. Based on how they add value, it depicts the relative importance of various sectors and industries. The economy's makeup, degree of diversification, and prospective growth and development regions are all revealed by this data.
- 4. Supports Policy Analysis:** The value-added technique gives decision-makers a useful tool for assessing how policies affect various industries and the entire economy. Policymakers can evaluate the success of policy initiatives, spot bottlenecks or areas of inefficiency, and create tailored policies to support economic growth and stability by looking at changes in value-added across sectors.
- 5. International Comparability:** The value-added technique is globally comparable since it follows the recommendations made by international bodies like the International Monetary Fund and the United Nations about the System of National Accounts SNA. This facilitates worldwide benchmarking and study of economic performance and enables meaningful comparisons of national income and GDP across nations. The value-added method of calculating national income, in conclusion, has a number of benefits, including thorough coverage, avoidance of double counting, highlighting inter-sect oral linkages, consistency with national accounts, reflection of economic structure, support for policy analysis, and global comparability. The value-added approach is a useful tool for policymakers, economists, and analysts in evaluating and comprehending the economic activity within a nation due to these benefits.

The Measurement of National Income Value Added Method's User Drawbacks:

The value-added technique of calculating national income has a number of benefits, but it's also vital to take into account its drawbacks. Let's look at a few disadvantages of utilizing the value-added approach to calculate national income:

Complexity and Data Availability: The value-added approach calls for thorough information on value addition at every level of production. Such data collecting can be difficult and time-consuming, especially in countries with a sizable informal sector or with underdeveloped data collection infrastructure. The value-added method's applicability and dependability may be constrained by how difficult it is to collect correct and complete data. Assessing the informal sector can be challenging since transactions there are frequently not recorded and informal businesses are less likely to maintain

accurate records of their financial activity. Because of this, the value-added method may produce an inaccurate image of the overall economic activity by underestimating the informal sector's actual size and contribution to national income.

Limited Range of Value Added: The value-added methodology concentrates on the value contributed at each step of production and leaves out the value of non-market activities like household production and volunteer work. This restriction may cause an underestimating of overall economic activity and may distort the portrayal of some industries or activities that the value-added technique does not account for. Externalities, such as environmental costs or social repercussions linked to economic activity, are not taken into account by the value-added technique. Although it gives an indication of economic output, it does not account for the wider costs and advantages to society. The evaluation of sustainable development may be impacted by this restriction, which could devalue actions that have detrimental effects on the environment or society.

Neglects Money Distribution: The value-added approach does not give a clear picture of how money is distributed throughout the economy. Instead, than tracking the revenue distribution among various production elements such as labour and capital or different income groups, it focuses on the value contributed at each stage of the production process. As a result, it misses out on income differences and inequality, two key factors in determining a society's general well-being. Despite the value-added method's capacity to facilitate worldwide comparability, there may be difficulties due to regional variations in measurement conventions and data accessibility.

The comparability of national income estimates can be impacted by differences in data collection procedures and the classification of industries. The precision and dependability of cross-country comparisons made using the value-added method may be constrained by these inconsistencies. In conclusion, there are some drawbacks and limits to using the value-added approach to calculate national income. These include issues with complexity and data availability, difficulty capturing the unorganized sector, a narrow focus on value addition, disregard for externalities and income distribution, and problems with international comparison. To acquire a more complete picture of the economy, it is crucial to take these constraints into account when applying the value-added method and to supplement its study with other methods.

Application of the Method for Measuring National Income by Value Added

Numerous uses of the value-added method of measuring national income offer important insights into an economy. Let's look at some of the main uses for this technique: Economic Performance Analysis The value-added approach enables analysts, economists, and policymakers to evaluate and examine a nation's economy. It gives a thorough picture of the contributions made by various sectors and industries to the overall economic output by assessing the value added at each step of production. This data aids in pinpointing the industries driving economic growth, spotting variations in sectoral performance over time, and developing targeted economic development plans.

Sectorial Analysis: The value-added method makes it possible to analyse in-depth how various industries contribute to the national income. Policymakers and researchers can determine the relative importance of various sectors in the economy by breaking down the value added by sector. Understanding the sectoral structure, identifying major industries, evaluating their growth potential, and focusing resources on industries that can promote economic growth and diversification are all made possible with the help of this knowledge. Value-Added approach for international commerce Analysis The value-added approach makes it easier to analyse a nation's involvement in international commerce. It sheds light on the competitiveness and comparative advantages of particular sectors by calculating the value added by various industries in the production of exported goods and services. This data aids in understanding how international commerce affects the home economy, locating sectors that are export-oriented, and formulating plans to increase regional and international competitiveness.

Value-Added Approach: The input-output analysis, which looks at the interdependencies between various economic sectors, is closely related to the value-added approach. Input-output models can

calculate the direct and indirect effects of changes in final demand or sectoral policies by tracking the value added at each stage of production. This analysis aids in decision-making, forecasts probable effects on employment, output, and income, and helps to comprehend the reverberations of economic shocks or policy changes throughout the economy. Economic Performance Comparison: The value-added method enables accurate comparisons of national income and GDP throughout various time periods and nations. It guarantees measurement uniformity and makes it easier to conduct international benchmarking by following the rules of the System of National Accounts SNA. Policymakers and analysts can use this information to compare economic performance, find best practices, and gain insight from other nations' experiences.

Policy Development and Evaluation: The value-added approach offers decision-makers vital data for developing and accessing economic policies. Policymakers can efficiently target actions and distribute resources by determining the sectors with the highest value contribution. Additionally, policymakers can evaluate the effects of policy initiatives, pinpoint areas of success or difficulties, and make wise decisions to encourage sustainable economic growth by examining the changes in value added over time. In conclusion, there are a number of significant applications for measuring national income using the value-added technique. Analysis of economic performance, comprehension of sectoral contributions, evaluation of the dynamics of international commerce, input-output analysis, and facilitation of comparisons, and guidance in the development and assessment of policy are all aided by it. The value-added approach is a useful resource for decision-makers, economists, and analysts looking to understand the operation and growth of an economy because of these applications.

III. CONCLUSION

Value-added national income measurement is a crucial instrument for comprehending and evaluating a country's economic activity. Policymakers, economists, and analysts can use this method to evaluate economic performance, identify important sectors, and create effective policies since it offers insightful information on the contributions made by various sectors and industries. Numerous benefits of the value-added technique include thorough coverage, the avoidance of double counting, sectorial analysis, and cross-national comparability. In order to ensure a more accurate assessment of economic activity and prevent overestimation of national income, it captures the value contributed at each stage of production.

REFERENCES

- [1] B. Sarjono, "ANALISIS ASPEK PERPAJAKAN ATAS USAHA JASA KONSTRUKSI DALAM PEMENUHAN KEWAJIBAN PERPAJAKAN", *J. Bisnis Terap.*, 2018, doi: 10.24123/jbt.v1i02.795.
- [2] I. K. A. Setiawan en P. E. Setiawan, "PENERAPAN TAX REVIEW SEBAGAI DASAR EVALUASI ATAS PEMENUHAN KEWAJIBAN PERPAJAKAN PPH BADAN DAN PPN", *E-Jurnal Akunt.*, 2018, doi: 10.24843/eja.2018.v22.i01.p10.
- [3] J. Olsen, M. Kang, en E. Kirchler, "Tax psychology", in *The Cambridge Handbook of Psychology and Economic Behaviour, Second Edition*, 2018. doi: 10.1017/9781316676349.014.
- [4] S. G. Anarwat, "Ghana's national health insurance model: Advancing financial risk protection, equity of health care access, and financial sustainability.", *Diss. Abstr. Int. Sect. B Sci. Eng.*, 2018.
- [5] E. Haile, H. Tesfau, en A. P. Washe, "Determination of Dietary Toxins in Selected Wild Edible Plants of Ethiopia", *Core.Ac.Uk*, 2018.
- [6] M. Anderson, Annie , Reid, Jenny, Thomson, "Guideline: Sugars intake for adults and children", *World Heal. Organ.*, 2018.
- [7] Guideline: sugars intake for adults and children, "Guideline: Sugars intake for adults and children", *World Heal. Organ.*, 2018.

- [8] Organization World Health, “Guideline: Sugars intake for adults and children”, *World Heal. Organ.*, 2018.