

INTEGRATING SOCIO-ECONOMIC POLICIES INTO THE PUBLIC PROCUREMENT FRAMEWORK- AN ANALYSIS OF THE PUBLIC PROCUREMENT OPTION MODEL

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ABSTRACT

With increased globalisation, the concept of closing national borders against foreign firms in bidding and winning domestic contracts is increasingly falling by the way side. Opening up procurement markets, it is argued, creates competition on the supply side leading to government achieving its primary objective of value for money through procuring cost effectively.

Many governments are however not ready to cede all the purchasing power in public procurement to freer trade. This is due to the argument that public procurement can be used to achieve social economic objectives such as stimulating infant industries, fostering underdeveloped regions and creating employment.

Given both arguments, this paper develops a procurement policy option model (PPOM) used as a decision tool to determine whether a contract should be awarded to a foreign or a domestic firm. It helps to put countries at a comfortable pedestal to institute discriminatory procurement schemes within their procurement framework without compromising on the fundamental principle of value for money.

1.0 INTRODUCTION

It is always government responsibility to ensure that public money is well spent as alternative uses of funds constantly compete for policy spending priorities. Public procurement thus involves a complex set of choices embracing what to buy how to buy it and who to buy it from. The choice of who to buy it from, may embrace the argument of whether to buy from the national market (discriminatory procurement) or opening up to allow competition from foreign suppliers (non discriminatory procurement).

Governments argue that if the economy is to grow and be able to improve the standard of living of its people, some resources should be spent within the economy rather than spending it on foreign sourced goods especially if those goods exist within the economy. Deciding to buy from national markets will create a stimulus for a country's socio-economic growth through injections. Injections to the economy will stimulate the expansion of infant industries, foster

growth of underdeveloped regions, create employment and improve the standard of living.

On the other hand freeing the public procurement market to foreign competition while enhancing competition leading to possible efficiency in resource utilisation, it allows for resources to flow out of the economy through leakages. Leakages represent resources withdrawn from the re-spending cycle in the economy. A leakage will only boost other economies rather than the local economy.

There is therefore justification for creating of a balance between stimulation of the economy through awarding public procurement contracts discriminatorily to domestic firms and the public procurement primary goal of value for money through opening up the economy to competition from all firms irrespective of the country of origin.

The Procurement Policy Option Model (PPOM) that this paper develops is a decision tool available to governments to enable them to determine whether a contract should be awarded to a foreign or a domestic firm. Developed within the framework of the Social Accounting Matrix (SAM), the PPOM helps to put countries at a comfortable plinth to institute discriminatory procurement schemes within their procurement framework without compromising on the fundamental principle of value for money.

The baseline argument that this paper presents which is encapsulated by the PPOM is that government option to award a contract either domestically or to a foreign firm depends entirely on the impact that decision would have on the economy. That due to technological and production capabilities in especially developing countries, foreign sourced goods tend to be cheaper. The government would therefore make monetary savings by awarding a contract to a foreign firm. The monetary savings would be reinvested in the economy in what we call a 'priority sector'. The priority sector is one which government wants to put at the vanguard of the country's economic development. In a period of unemployment government would want to focus on a sector which generates more jobs per government expenditure on the economy. This could be industry, works or services.

Alternatively, this paper argues, for socio-economic development, government may chose to ignore a cheap foreign source and award the contract to a domestic firm that may post an even high price compared to a foreign firm. The model compares both alternatives and the impact each has on the economy. The decision point to award a contract to a foreign firm is then determined by assessing whether the saving that would be made and invested in the priority sector would be able to generate a bigger impact than would be the case if the contract was to be awarded to a domestic firm.

1.1 PROBLEM IDENTIFICATION

Developing countries are faced with a myriad of Small and Medium Scale enterprises. These SMEs are in many cases incapable of competing with large foreign firms for advertised contracts. Yet these SMEs are crucial for a country's development. In Europe often, the only reason why individual member countries experienced employment growth in the mid to late 1980s was because growth in SMEs employment more than offset losses in the large enterprise sector (Fee, Erridge & Hennigan, 2002). There is need to protect these firms so that they can grow but more so because they continue providing employment, household income and increased output to the economy. Buying from a domestic firm constitutes an injection in the economy with its associated antecedent benefits while buying from a foreign firm leads to a leakage out of the economy (see diagram below). Injections to the economy will improve the economy through increased employment income, household income and output to the economy while leakage helps to develop other countries.

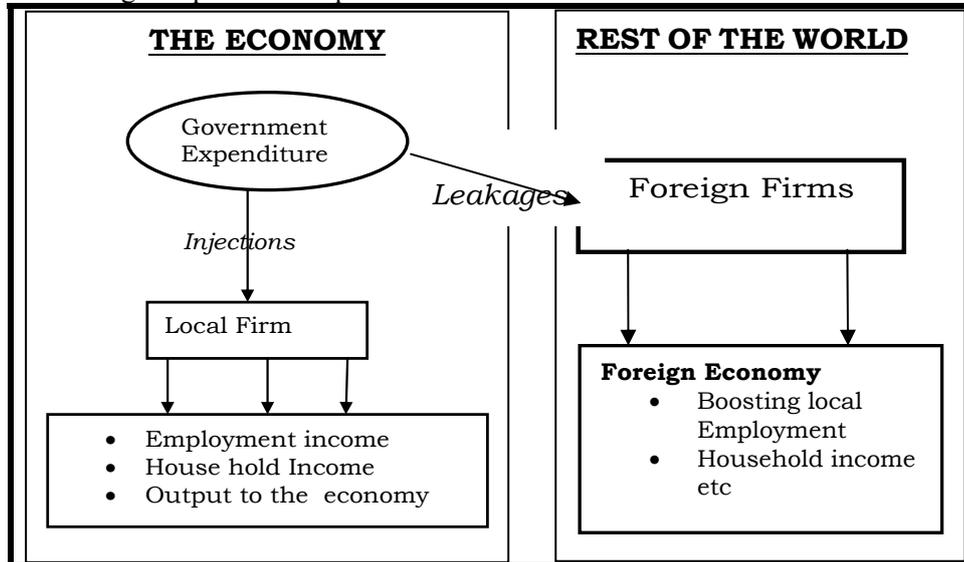


Figure 1: Injections & Leakages arising out of government expenditure

The most probable action would therefore be for governments to award the contracts exclusively to local firms. This however is not possible in the globalised world, where focus is increasingly turning to effective utilisation of resources. Awarding contracts exclusively to domestic firms would deny an economy the opportunity to enjoy benefits of lower prices that arise from economies of scale that large low cost international firms offer.

Government decision to either buy from domestic suppliers or from foreign suppliers comes down to either:

- Paying more than the optimal price to domestic firms with the hope that this will create a stimulus to the economy through increased employment, income and output.

- Buying at the most competitive price which might mean buying from a foreign firm which could post a lower bid price. This will deny the local economy the required stimulus as most of the money would be expropriated. However it would make a monetary saving which it could inject back into the economy.

The question then boils down to the possible savings arising out of buying at the most competitive price against the possible stimuli created by injections through buying from domestic firms. If the savings are large, there is no doubt government would be motivated to buy from a foreign firm and then invest the savings back into the economy while if the savings are small or insignificant, the justification to buy from a foreign firm would not exist.

This creates a balance of scale between how much saving government can earn from buying from a foreign firm against the impact of the stimulus created by a domestic expenditure. To make an analysis of this balance of scale, we use the accounting multiplier computed from the Social Accounting Matrix (SAM). We trace, using the multiplier, the sectoral abilities of creating wage employment as a result of an exogenous injection i.e. government expenditure through its public procurement policy.

2.0 METHODOLOGY

2.1 THE SOCIAL ACCOUNTING MATRIX

The Social accounting matrix (SAM) is a technique related to national income accounting, providing a conceptual basis for examining both growth and distributional issues within a single analytical framework in an economy. It can be seen as a means of presenting in a single matrix the interaction between production, income, consumption and capital accumulation.

A social accounting matrix is simply defined as a single entry accounting system whereby each macroeconomic account is represented by a column for outgoings and a row for incomings” (Round, 1981). It is represented in the form of a square matrix with rows and columns, which brings together data on production and income as generated by different institutional groups and classes, on one hand, and data about expenditure of these incomes, by them on the other. In a SAM, incomings are indicated as receipts for the row accounts in which they are located and outgoings are indicated as expenditure for their column accounts. Since all incomings must be, in a SAM, accounted for by total outgoings, the total of rows and columns must be equal for a given account.

SAM is a data system, including both social and economic data for an economy. The data sources for a SAM come from input-output tables, national income statistics, and household income and expenditure statistics. An overriding feature of a SAM is that households and household groups are at the heart of the framework. Only if there exists some detail on the distributional features of household sector can the framework earn the label ‘social’ accounting matrix (Dakila and Dakira 2004).

The SAM is not, of itself a model. It is simply a representation of a set of macro-meso data for an economy (Round 2004) However once the SAM is built with all the accounts in a consistent framework; this forms the transaction table providing the basis for the multiplier analysis to be undertaken.

The first step is to decide which accounts are considered endogenous and which ones are kept exogenous. The framework can then be used to measure the impact of change in the exogenous accounts on the whole system (Dakila and Dakira 2004). Usually SAM tables consist of production activities, factors of production and households. It has become customary to regard these as endogenous while transactions in government account, capital account and the rest of the world are considered exogenous. This is because government outlays are essentially policy-determined, the external sector is outside domestic control and as the model has no dynamic features so investment is exogenously determined (Round 2004).

Once the endogenous and exogenous accounts are determined, the transaction matrix can be transformed into corresponding matrix of coefficients. This can be obtained by dividing a particular column entry in the table by the column total. This yields a sub-matrix A_n which represents the average expenditure propensities of the endogenous accounts (Parikh and Thorbecke 1996) These propensities obtained from endogenous accounts are the coefficients analogous to the input output model that are used to compute the matrix multipliers. The accounting multiplier can be derived from A_n . The proportions that are obtained from the exogenous account show the leakages i.e. the proportion of each endogenous account that leaks out as expenditure into external accounts without feedback.

The total transformed matrix is expressed in ratios where each column adds up to one. So, well as transaction matrix is expressed in monetary value, the matrix expenditure propensities shows the values as the ratio of each particular element of endogenous accounts with respect to the column in which the element is situated. The endogenous rows accounts can then be written as a series of linear identities and the system can be solved to give the multiplier matrix relating endogenous income y_n to exogenous injections X

$$Y_n(1-A_n)^{-1}X=M_aX$$

The inverse, $(1- A_n)^{-1}$ is termed as the accounting multiplier matrix. A_n represents the matrix of average endogenous expenditure properties.

2.2 THE UGANDAN SOCIAL ACCOUNTING MATRIX AND THE ACCOUNTING MULTIPLIER

The Ugandan SAM refers to the year 2002 and consists of 4 blocks of accounts. The first block of accounts combines 61 commodities and 74 activities that could be referred to as commodity mappings, the second block refers to factors of production which are subdivided into 16 categories of labour and two

categories of capital (mixed income and operating surplus). The third block refers to 32 institutional accounts ranging from regional households to corporations. The fourth and final block is the combined government, accumulation a/c and foreign sector. This creates a table with 189 columns and rows.

Apart from the work involved in running such a large matrix, all the details pertaining to such a large matrix were not required for this paper, so we aggregated them to 16 columns and rows of which 15 were endogenous and 1 exogenous.

Our major focus was to evaluate the various sectoral abilities to generate wage employment as a result of an external stimulus, i.e. government expenditure through its public procurement policy. Our effort was to quantify the impact of an exogenous factor i.e. government expenditure on domestic firms using the social accounting multiplier. Sectoral production activities are evaluated according to their ability to generate wage employment income. Specifically, we trace the flow of income within the various occupational sectors of the labour force arising out of government decision to spend within the economy in the procurement of government contracts rather than buying from foreign suppliers who might at times post cheaper prices

As noted earlier the SAM tables for Uganda provide 16 categories of labour dichotomised according to gender (male, female), geographical location (rural, urban) and level of skills (unskilled, semi-skilled, skilled and high-skilled) creating a 2x2x4 matrix (16 labour classes). The definitions of "unskilled", "semi-skilled", "skilled", and "high-skilled" are linked to educational achievement:

- Unskilled: not completed primary
- Semi-skilled: completed primary (completed Primary Seven)
- Skilled: above primary to completed secondary (inclusive)
- High-skilled: Graduate from tertiary education

We aggregated the labour categories to only four according to the level of skill i.e. unskilled, semi-skilled, skilled and high-skilled. These formed the factor of production utilisation within our aggregated matrix.

Creation of wage employment to the economy is the work of the productive sectors. In the Uganda SAM, the productive sector is made up of 61 commodities and 74 activities that we referred to as commodity mappings. We aggregated these into 7 productive sectors. The basis of our aggregation was the closeness or similarity of the activities. The commodities and their production activities as indicated in the social accounting Matrix, show a clear categorisation based on agriculture (major sector in the economy), product processing (Manufacturing), water and electricity (Utilities), Building and construction (Building construction and civil engineering), transport and communication, commercial services and social services.

The households or institutional accounts were 32 based on the region, whether east, west, north or south. The regions were further divided into urban or rural. This created a $4(2 \times 2 \times 2 \times 2)$ matrix equalling to 32. We aggregated these accounts into only four accounts based on the region. So we got: East, West, North, central households.

We then created one exogenous account that comprised of government, capital account and the rest of the world (ROW).

The next step towards the computation of the SAM-based multiplier models is to compute column shares (column coefficients) from a SAM in order to represent structure and, analogous to an input-output model, to compute matrix multipliers. This operation provides average expenditure propensities for the various Productive and social sectors obtained by dividing a particular column of endogenous accounts by the column total. These coefficients expressed as ratios constituted the A_n used to obtain the income multipliers

The SAM coefficient Matrix calculated in the previous paragraph is multiplied with the identity matrix to get $(I-A_y)$ which is inverted to calculate the accounting multiplier.

Inverting the coefficient Matrix $(I-A_y)$ above would create the accounting multiplier derived by the formula $M_a = (I-A)^{-1}$ where M_a is the SAM multiplier matrix for a Matrix A. (See the table below).

THE ACCOUNTING MULTIPLIER FOR THE UGANDAN ECONOMY

| | | Accounting Multipliers for the Ugandan Economy based on the 2002 Social Accounting Matrix | | | | | | | | | | | | | | |
|----------------------|--|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sectors ¹ | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | Agriculture, Animal husbandry Forestry & fisheries | 2.319 | 0.506 | 0.118 | 0.208 | 0.146 | 0.189 | 0.395 | 0.667 | 0.628 | 0.623 | 0.629 | 0.549 | 0.719 | 0.796 | 0.755 |
| 2 | Manufacturing | 0.286 | 1.973 | 0.218 | 0.663 | 0.337 | 0.335 | 0.658 | 0.780 | 0.752 | 0.754 | 0.753 | 0.717 | 0.859 | 0.882 | 0.801 |
| 3 | Utilities | 0.027 | 0.028 | 1.990 | 0.023 | 0.032 | 0.044 | 0.098 | 0.095 | 0.092 | 0.092 | 0.092 | 0.089 | 0.105 | 0.104 | 0.098 |
| 4 | Building, Construction And Civil Engineering | 0.016 | 0.020 | 0.011 | 2.039 | 0.031 | 0.061 | 0.072 | 0.055 | 0.060 | 0.059 | 0.058 | 0.070 | 0.043 | 0.035 | 0.058 |
| 5 | Transport and communication | 0.076 | 0.075 | 0.053 | 0.107 | 1.692 | 0.158 | 0.220 | 0.189 | 0.192 | 0.193 | 0.190 | 0.208 | 0.188 | 0.168 | 0.187 |
| 6 | Commercial Services | 0.281 | 0.368 | 0.201 | 0.327 | 0.613 | 2.515 | 0.914 | 0.824 | 0.818 | 0.819 | 0.812 | 0.835 | 0.840 | 0.839 | 0.839 |
| 7 | Social Services | 0.090 | 0.070 | 0.049 | 0.058 | 0.077 | 0.113 | 2.217 | 0.284 | 0.287 | 0.287 | 0.282 | 0.303 | 0.302 | 0.221 | 0.298 |
| 8 | Unskilled labour | 0.156 | 0.051 | 0.013 | 0.030 | 0.033 | 0.034 | 0.066 | 1.060 | 0.057 | 0.057 | 0.057 | 0.052 | 0.064 | 0.068 | 0.066 |
| 9 | Semiskilled labour | 0.028 | 0.015 | 0.006 | 0.018 | 0.014 | 0.019 | 0.025 | 0.017 | 1.017 | 0.017 | 0.017 | 0.016 | 0.018 | 0.018 | 0.018 |
| 10 | Skilled labour | 0.034 | 0.031 | 0.095 | 0.036 | 0.048 | 0.078 | 0.095 | 0.047 | 0.046 | 1.046 | 0.046 | 0.046 | 0.049 | 0.048 | 0.049 |
| 11 | High Skilled labour | 0.040 | 0.042 | 0.067 | 0.063 | 0.078 | 0.128 | 0.456 | 0.099 | 0.099 | 0.099 | 1.098 | 0.102 | 0.103 | 0.088 | 0.102 |
| 12 | Central Households | 0.123 | 0.073 | 0.105 | 0.080 | 0.096 | 0.146 | 0.357 | 0.521 | 0.709 | 0.738 | 0.679 | 1.223 | 0.125 | 0.117 | 0.125 |
| 13 | Eastern Households | 0.050 | 0.025 | 0.030 | 0.025 | 0.029 | 0.043 | 0.106 | 0.259 | 0.175 | 0.199 | 0.197 | 0.070 | 1.079 | 0.039 | 0.091 |
| 14 | Northern Households | 0.040 | 0.021 | 0.026 | 0.022 | 0.026 | 0.038 | 0.096 | 0.204 | 0.153 | 0.165 | 0.184 | 0.047 | 0.035 | 1.114 | 0.058 |
| 15 | Western Households | 0.068 | 0.034 | 0.037 | 0.034 | 0.039 | 0.057 | 0.141 | 0.350 | 0.301 | 0.236 | 0.265 | 0.050 | 0.055 | 0.052 | 1.100 |
| | Total Accounting multiplier | 3.634 | 3.332 | 3.019 | 3.733 | 3.291 | 3.960 | 5.916 | 5.450 | 5.385 | 5.385 | 5.358 | 4.379 | 4.586 | 4.587 | 4.645 |

Source: Computation from the Uganda SAM 2002

¹ The column sectors 1-15 have the same order of arrangement as they appear within the rows making it a square matrix

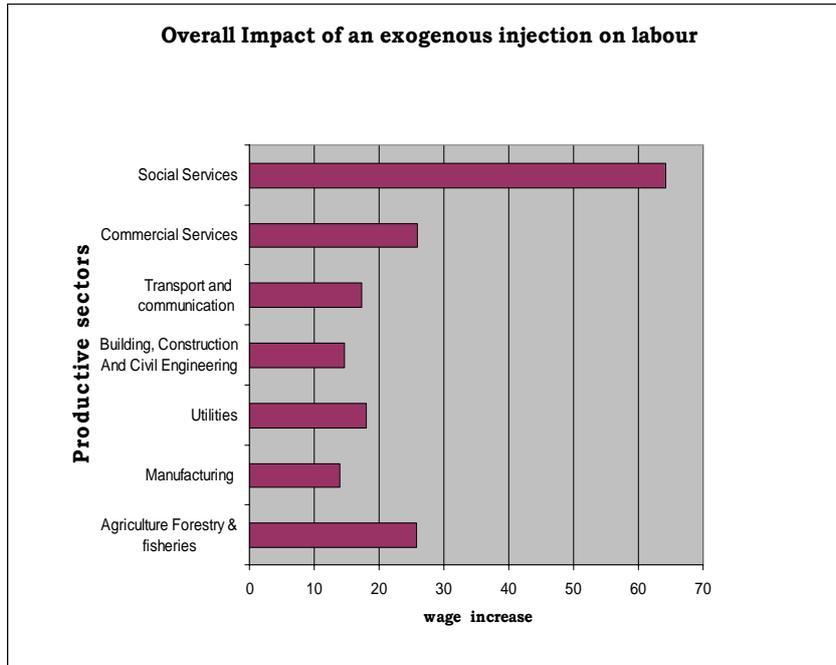
The above matrix depicts the interplay of various sectors in the economy. SAM accounts are aggregated into 7 commodity mappings (Products and production activities) 4 labour classifications and 4 household classification. Our objective was to evaluate the various sectoral abilities to generate employment income. Specifically, our aim was to trace the labour income that would accrue in the various sectors if there was an external injection i.e. government expenditure.

Therefore the matrix above captures sectoral-occupational linkages and estimates the overall impact of an exogenous spending on the Ugandan economy. The labour market has been aggregated according to level of skill requirements, hence getting unskilled, semi-skilled, skilled and high skilled. It should be recalled that, unskilled labour is used to refer to those people who have never completed primary education, semi skilled completed primary education(Primary Seven), skilled completed primary education plus secondary education while high skilled labour are graduates from tertiary institutions.

Categorisation of labour along these lines is crucial for government planning. Depending on its priorities government will inject resources in that sector whose type of labour it would want to promote. For example the table captures agriculture, animal husbandry, forestry and fisheries as the largest partaker of unskilled and semiskilled labour while utilities are least users of this category of labour. Given that Uganda's literacy level is low; the unskilled and semiskilled labour is in abundance. So if government wanted to increase income within this unskilled and semiskilled populace, the crucial sector to invest in would be agriculture, animal husbandry, forestry and fisheries.

This research argues that when government makes monetary savings from buying competitively, it can re-invest the savings in the most competitive sector (priority sector). The priority sector is judged by its ability to increase wage income relative to other sectors. From the accounting multiplier computations, the social services came out strongly to indicate a heavier impact on the economy as a result of an external injection. The total multipliers for all types of labour for social services sector is 0.642. Simply put, a Ushs.100 injection within the social services would create an additional UShs. 64.20. At the extreme end, the manufacturing sector comes out lest strongly as a reaction to an external injection. UShs14 is created in wage income per UShs. 100 invested (see graph below). It is because of the importance of the social services sector in terms of wage income

generation that we decided to base on it for our further argument. We argue that it would be the most appropriate sector to re-invest the savings into in order to create additional wage income. We thus refer to the social service sector as the ‘priority sector’



Graph 1: Impact of an exogenous injection on wage income

3.0 THE PROCUREMENT POLICY OPTION MODEL (PPOM)

In the previous section, we addressed ourselves to the accounting multiplier computed from the social Accounting Matrix to assist us to determine whether it is economically justifiable to discriminate foreign firms using all sorts of tools. In order to justify government continuous purchase from foreign firms, the first criteria is that the price they offer should be less than that offered by the domestic firms assuming equal quality levels and efficiency in service delivery.

However, price alone is insufficient to determine whether or not to buy from a foreign firm. Another criterion that should be used is the impact that buying domestically or from a foreign firm has on the economy. The impact made on the economy by either should be greater than that of the other so as to determine whether to buy domestically or from a foreign firm.

To measure this impact we use the accounting multiplier computed from the Ugandan Social Accounting Matrix (SAM 2002). In the box below, we develop a Procurement Policy Option Model (PPOM) that is used as a decision tool to determine whether or not a country should award a contract to a domestic or foreign firm.

As indicated in the previous section, in order to consider buying from a domestic firm:

Impact of buying domestically \geq Impact of buying from a foreign Firm

Domestic impact (M_i) \geq Foreign Impact(M_f) + Impact of savings($M_p \alpha_i$)

Mathematically, we develop the following equation:

$$XM_i \geq X(1 - \alpha_i)M_f + X M_p \alpha_i \dots\dots\dots 1.1$$

Where
 X = Contract Value

And
 M_i, M_f, M_p = Impact as computed through the accounting multiplier
 α_i = Savings percentage from foreign supplier

Solving for the equation further to eliminate X

$$M_i \geq (1 - \alpha_i)M_f + M_p \alpha_i \dots\dots\dots 1.2$$

But M_f constitutes a leakage out of the economy hence tends to Zero

Hence buy local if

$$M_i \geq M_p \alpha_i \dots\dots\dots 1.3$$

OR $\alpha_i \leq M_i / M_p \dots\dots\dots 1.4$

Equation 1.4 is the Procurement Policy Option Model (PPOM). The PPOM is crucial in determining whether or not to award the advertised contracts exclusively to a domestic firm or to a foreign firm.

According to the PPOM, government can buy from a domestic firm with a possible impact of M_i to the economy. Alternatively government can buy from a cheap foreign firm and the savings made

can be injected into sector with a multiplier M_p , depending on government priorities. To award a contract to a foreign firm is then determined by assessing whether the saving that would be made and invested in the priority sector would be able to generate more wage income than would be the case if the contract was to be awarded to a domestic firm. The savings we are talking about here is the difference between the would-have-been price of the product had it been bought from a local firm and the actual price obtaining from buying the product from a foreign firm.

The model $\alpha_i \leq M_i/M_p$ therefore explains the two possibilities open to government in its conduct of public procurement and determines the decision point to either buy domestic or foreign. A government with the intent of achieving secondary objectives will want to discriminate foreign suppliers and award the advertised tender to a domestic firm.

According to the PPOM, government should award an advertised contract to a domestic firm, if the impact on the economy as calculated through the accounting multiplier, of the savings accruing from awarding it to a cheap foreign source is less or equal to the impact of awarding it to a domestic firm.

It follows therefore that:

If M_i tends to zero it becomes increasingly justifiable for government to award the contract to a foreign firm. This is because the impact of the savings accruing from awarding the contract to a foreign firm would increase and become greater than the impact of awarding the contract to a domestic firm.

Conversely,

If M_p tends to zero, it becomes increasingly justifiable for government to award the contract to a domestic firm. This is because the impact of the savings accruing from awarding the contract to a foreign firm would decrease and become less than the impact of awarding the contract to a domestic firm.

The varying nature of M_i/M_p underscores the relative importance of the domestic spend versus the best possible alternative use of the saved funds from a cheaper foreign firm. We argue that when government buys domestically, the economy benefits through increased local material utilisation and employment generation, although it might pay slightly more than it would, had it to subject the contract to open competition.

When government buys from foreign firms it benefits from lower prices although most of the money is lost through leakage out of the economy since the firm is foreign and most of the production process is done outside the economy. However all is not lost. Government benefits from the savings which it can re-invest into the most economic sector depending on its policy directions, i.e. the priority sector. In the next section we explain the concept of the priority sector.

3.1 THE PRIORITY SECTOR

In the model, we introduce the concept of a priority sector. We argue that government has a policy direction through which it wants to develop the economy. The priority sector is one which government wants to put at the vanguard of the countries economic development. In a period of unemployment government would want to focus on a sector which generates more jobs per government expenditure on the economy e.g. industry, agriculture or services. Other priority area could be regional development e.g. Northern Uganda (This region has been embroiled in civil war for the last 23 years). In this case the government would want to increase household income for the people in Northern Uganda. Alternatively government consider increasing the wage income of a particular labour category such as the skilled labour.

To determine the priority sector largely depends on the policy direction of the country. In this research we consider the sector which creates wage income most as calculated by the accounting multiplier. This sector is the social services sector with an accounting multiplier of 0.642. Considering the social services sector as the priority sector can sometimes present some problems given that it has few intermediaries. However, the generalised model developed in this research in terms of M_p allows government more freedom to select the priority sector or a combination of them.

The concept of the priority sector underscores the varying impact of various sectoral investments on the economy calculated through the accounting multiplier. An extra injection of US\$100 to various sectors of the economy would produce different results depending on the sector.

In this regard M_p will vary relative to M_i depending of the sector that government decides to invest the savings into. It is on this basis that we argue that for government to use PPOM, it should undertake a sectoral analysis to determine the most important sector in terms of its priorities to invest the savings into.

3.2 SECTORAL ANALYSIS

We analyse the model application by measuring the impact of a domestic firm winning an advertised contract denoted by M_i vis-à-vis the alternative possible savings if the contract went to a foreign firm, denoted by α_i

As indicated in our previous section, as M_i decreases i.e. the impact on the economy of awarding a contract to a domestic firm, the percentage savings required to award a contract to a foreign firm decreases. This means, it is increasingly becoming less attractive to award a contract to a domestic firm in view of the impact that contract has on the economy. As M_i decreases further and tends to Zero the alternative percentage requirements of savings lower and the absolute impact on the economy of buying from a foreign firm increases making it necessary to open up the procurement market to global competition. However, this argument is sector dependent.

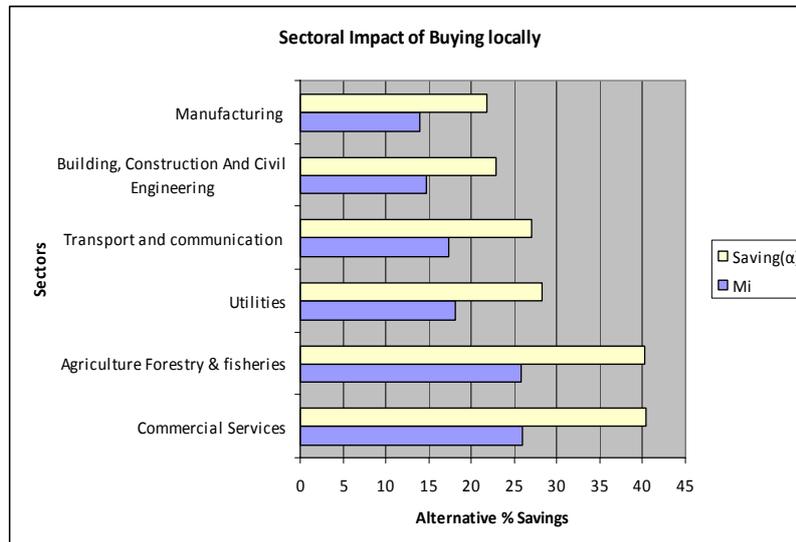
To illustrate this argument, we compute sectoral percentage savings requirement, below which government would award an advertised contract to a domestic firm. From the accounting multipliers computed in the previous section, the impact of spending an additional Ushs100 in each of the sectors of economy the economy was determined. This is what in our MOPP we denote by M_i . This is achieved if government chose to award a contract to a domestic firm.

Alternatively, government could award the contract to a foreign firm and re-invest the savings into the most competitive sector i.e. the social services sector with an accounting multiplier of 0.642. This is M_p . The percentage savings requirement level to determine whether or not to award the advertised contract to a foreign firm then depends on the M_i . As it decreases per sector, the percentage level savings required for that sector decreases.

In the graph below, commercial services and agriculture would attract the highest percentage requirement of alternative savings. If government is to award a contract in these two sectors to a foreign firm, it requires a percentage savings of above 40%. Below, this, it makes economic sense to award the contract to a domestic firm because it would have a higher impact on the economy in absolute terms.

However, as the graph indicates the impact on the manufacturing sector of an extra Shs. 100 injected into it is only Ushs14. The percentage savings level required in this sector to justify domestic award of an advertised contract is 22%. Above this percentage it

becomes clear that government should award the contract to a foreign firm.



Graph II: Sectoral Analysis of buying locally in relation to saving requirement arising out of buying from a cheap foreign source

The diagnosis above also reflects the actual nature of the agricultural dependent countries e.g. Uganda. In this case since agriculture is the backbone of such economies opening up there markets would have serious implications on the economy. It would therefore make the right argument if opening up of this sector should attract a higher percentage savings requirement. Alternatively the manufacturing sector in many developing countries is still humble, hence the justification of the lower percentage requirement.

4.0 MODEL IMPLEMENTATION

For a country that is desirous of implementing discriminatory schemes, the decision is that buy local if the equation $\alpha_i \leq M_i/M_p$ is not satisfied. However for a country is to apply this model, it needs to calculate sectoral multipliers to be able to assess the impact of an additional US\$100 on the economy. Additionally government needs to determine the priority sector in line with its policy objectives. Once these two issues i.e. the sectoral multipliers and the priority sector have been identified and published, the implementation of the model become fairly simple. In summary government requiring to use the PPOM requires to do the following:

- Identify government priorities in regard to social and economic development. These priorities could be increased employment, regional development, enhancement of marginalised groups, SME development etc
- Identify the driving sector of the economy which is at the centre of achieving the highlighted priorities. This involves undertaking sector analysis. Using the country's Social Accounting Matrix, each sector's accounting multiplier is calculated. The sectoral multipliers are used to assess each sector's ability to achieve the country's economic and social priorities. As discussed in this paper, the sector with the highest ability to achieve the countries economic and social objectives is identified and this becomes the priority sector. An impact of an external injection (government expenditure) in this sector is denoted as M_p . The impact of an external injection (government expenditure) on each of the other sectors is denoted as M_i .
- The next step is the development of sectoral thresholds. These thresholds are used to determine at which level per sector can a country award an advertised contract to a local or foreign firm. The thresholds are calculated from M_i/M_p .
- The thresholds are then published and procuring entities in both the central and local governments are guided on their implementation per sector.

4.1 RECOMMENDATION FOR GROWTH PATH

Once some form of discrimination is introduced along side competition, some local firms will start winning public contracts and this will motivate them to work harder to brace up with competition. They will innovate and restructure their production processes to be able to compete and win more domestic contracts. This discrimination is positive for it assists local firms to play hard and win. So, in the short run, discrimination schemes are justifiable for they assist local firms to grow and once they grow and enlarge issues like wage income would increase hence enabling government to achieve its social objectives of improvement in welfare.

However as argued earlier, discriminatory schemes should be applied as stop gaps and not used in perpetuity. Constant evaluation of institutional growth arising from discriminatory schemes should be introduced and time frames for their applicability drawn. If this is not done, complacency sets in and the intended objective of improving

their competitiveness is never attained. To avoid this negative aspect we suggest two ways forward:

1. Multipliers should be recalculated every few years in order to work with the most recent data. This way, the discriminatory rules will change over time.
2. Instead of wait and see policy (as in 1) government can also implement policies in which they force the local firms to become more competitive by for example calculating M_i/M_p once and reducing this discriminatory threshold in say 10 years time to zero (the ten years period may be different per sector). Or reducing it by 1% a year. Then both the domestic and the foreign suppliers will know what they are facing in the coming years

The problem with discriminatory schemes is that once they are introduced, politically, they are hard to remove. Governments are exposed to various lobby groups that want to ensure they exist in perpetuity. A government fearing to lose an election succumbs to these demands leading to continued perpetuation of inefficiency. A time frame as suggested above needs to be attached to the programme and progress constantly monitored.

5.0 CONCLUSION

In this paper through a scholarly work, we have built models through which government can attain both economic and social objectives using public procurement using the PPOM. Advocates of interventions in public procurement have a justifiable course. Economic and social objectives should be interlaced for a country to achieve economic development and transformation. Given the amount of resources expended by various governments through public procurement, it should be put at the centre of this economic development and transformation. Given the inadequate capacity in many firms in various sectors in especially developing countries, economic development and transformation cannot be attained without interventions. This is where the argument for discriminatory schemes in public procurement comes in.

However, to efficiently implement the discriminatory procurement schemes, countries need to undertake a sectoral analysis in order to determine sectoral thresholds. The model developed in this provides the necessary guidance on how countries can differentiate between the different sectors so as to set effective thresholds necessary to achieve social economic objectives without compromising on the primary objective of value for money.

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