

The Social Accounting Matrix (SAM) for Jordan, 2006

-An Analytical and Planning Tool for Growth, Income Distribution and Poverty Reduction-

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Abbreviations

| BoPs | Balance of Payments |
|-------|--|
| CBJ | Central Bank of Jordan |
| CGE | Computable General Equilibrium |
| DOS | Department of Statistics |
| EDP | Executive Development Programme |
| ES | Employment Survey |
| FTS | Foreign Trade Statistics |
| GDP | Gross Domestic Product |
| GFS | Government Financial Statistics |
| GNP | Gross National Product |
| GOS | Gross Operating Surplus |
| HEIS | Household Expenditure and Income Survey |
| I/O | Input-Output (Tables) –IOT- |
| IFI | International Financial Institutions |
| ISIC | International Standard Industrial Classification |
| JIOP | Jordan Input-Output Project |
| JOSAM | Jordan Social Accounting Matrix |
| MDGs | Millennium Development Goals |
| MOF | Ministry of Finance |
| MOPIC | Ministry of Planning and International Cooperation |

6/Social Accounting Matrix for the Jordanian Economy –JOSAM-

| MTEF | Medium Term Expenditure Framework |
|-------|---|
| MTFF | Medium Term Fiscal Framework |
| MTMF | Medium Term Macroeconomic Framework |
| NA | National Accounts |
| NDI | National Disposable Income |
| NPISH | Non-Profit Institutions Supporting Households |
| PER | Public Expenditure Review |
| PRS | Poverty Reduction Strategy |
| PSD | Policies and Strategies Department |
| TOR | Terms of Reference |
| SAM | Social Accounts Matrix |
| SNA | System of National Accounts |
| UN | United Nations |
| UNDP | United Nations Development Programme |

Abstract

This Report presents the first Social Accounting Matrix (SAM) compiled for Jordan. This Jordanian Social Accounting Matrix (JOSAM) has been constructed using 2006 Input-Output (I/O) Tables, National Accounts (NA) data, Household Expenditure and Income Survey (HEIS) results, the results of the Employment Survey (ES), Fiscal and Government budgetary and closing accounts data, Monetary data, foreign trade Statistics (FTS), balance of payments (BoPs) statistics, and various other sets of data, that were available and/or collected in the field, on the national economy, and its different segments and variables.

Having used the year 2006 which is considered to be an economically normal year, in addition to the availability of highly disaggregated sectoral and institutional information for the same year resulted in a clear rendering consistency, feasibility and economic viability for the JOSAM.

This being the case, the constructed JOSAM presented in this report, is depicting a complete set of the socio-economic systems that capture the interdependencies and interrelationships of activities, commodities, factors and institutions groups, together with the rest of the world (ROW). The JOSAM in its final shape and contents can be of a valuable support and can be used as a vital tool, to articulate carrying out the desired analyses of various socio-economic planning and policy issues. Instrumental JOSAM applications and its uses would measure, quantify and handle, amongst others, different development scenario alternatives, the socio-economic impact of likely outside shocks and exogenous changes facing the Jordanian economy, presently and/or at the near future, measuring the poverty conditions and impact of poverty reduction strategies and policies. Additionally it can be used as an accurate and comprehensive national data-base for designing, formulating and calibrating a computable general equilibrium (CGE) model and other comprehensive integrated macroeconomic and fiscal models for the Jordanian economy.

Introduction:

Economic development planning and policy functions requiring specially driven information in order for the related development plans, programmes and policies, to be analyzed, quantified and measured, together with carrying out the required assessment of their likely impacts. Additionally, for macroeconomic policy and planning purposes, national accounts data and data on aggregated sectoral level, will always be generated and used. Subsequently, various macroeconomic planning and analysis. These models, for example, are demand management functions models, such as; Harrod-Domar model, Chenery two-gap model, Tinbergen planning model, and so on. Further development and extension in modelling needs and efforts have started when more emphasis was given to detailed multi-sectoral and multi-dimensional modelling. Accordingly, vast and more escalating source of information, with special emphasis on the expanding inter-sectoral/inter-industry economic analysis have been generated and used. For this type of analysis, Leontief's input-output (I/O) approach and techniques were the central focus of the macroeconomic and planning models of the era.

Following these types of models, many more extensive models have been developed and articulated, in dynamic and non-linear settings, for growth and development, for different economies. At this juncture, it is worth mentioning that the development on modelling aspects that has taken place within the Cambridge Growth Model programme, by Stone, Brown and their associated technical team, at Cambridge University Applied Economics Department, in the late sixties and the seventies of the last century, were pioneering in disaggregation of production into different components and activities, and in decomposing the economy into various socio-economic segments. These activities and segments are interdependent, where each activity requires material inputs and services to purchase from others, together with the process of supplementing the domestic capacity of production and supply, by importing from the rest of the world (ROW). However, these activities and segments' likely interconnection would enhance the economic analysis of aggregate and sectoral demand effects on level of output, as well as impacting the conditions of the country's balance of payments (BoP).

De facto, a successful economic development and policy should, by and large, achieve; i) macroeconomic stability (i.e. achieving and ensuring real positive growth in the economy, national and sectoral dimension, with low -minimum- inflation and unemployment rate), and ii) long-term fiscal sustainability (based on a continued revenue generated to satisfy public sector fiscal requirements, through time). This is besides the fact that development is also about raising and improving the standards of living. It also recognizes that economic development and related policy should instantaneously deal with the distribution of benefits arising from growth, and hence the resultant income, to the point where faster growth in the economy, overall, might be sacrificed for the sake of better and faster growth in the living standards, as well as for the sake of a balanced and more egalitarian income distribution within the economy. This will work on generating more benefits for a given group of the society, especially, the poor and the less privileged groups.

This perception of economic development provides, among other things, important empathies to develop a more comprehensive modelling approach. This type of expanded modelling development is needed, in order to quantify and capture the, aimed at, multidimensional coherent benefits of implementing the development programme, medium term fiscal framework (MTFF) and related policies. Nonetheless, developing more disaggregated and socio-economic decomposable though integrated modelling approach, to handle the above mentioned strategic objectives, requires obtaining detailed statistical information, on the economy and on its various sectors, segments, factors, institutions and social groups, together with their socio-economic prevailing interconnections and linkages, within the national economy and with the rest of the world. Such structured and detailed sets of data, should be conceivable to be collected, constructed and to be used for articulating modeling features that are focused and designed to deliver, in an optimal manner, income distribution, employment trends and conditions, poverty incidents and poverty alleviation, amongst others, within the national economy.

Accordingly, and with the increasing realization of the above economic development and policy objectives and modelling realities, the social accounting matrix (SAM) has been developed and constructed as a logical platform, and as a detailed feasible data framework, for developing and calibrating the much needed comprehensive socio-economic integrated and dynamic macroeconomic and fiscal management and planning models, for the developing economies. Wherein, depiction of inter-sectoral and inter-segmental structure of the national economy, and its relationships with the rest of the world is, fully, considered and modeled.

This report, by and large, contains the Jordanian Social Accounting Matrix (JOSAM), how it has been constructed -methodologies, procedures and statistical data-, its characteristics and features, and how it can be used for socio-economic development planning and policy, macroeconomic and sectoral growth, investment allocation, economic diversification, employment creation, poverty reduction, and fiscal management and fiscal sustainability in the economy, to mention but a few.

The Social Accounting Matrix (SAM): Concept and Characteristics

SAM and its Concept:

The Social Accounting Matrix (SAM;) is a technique related to national income accounting, providing a conceptual and methodological basis for analyzing and examining both; the growth and distributional aspects, within a single integrated analytical framework in an economy.

It is economically known that economic growth is a necessary condition for development, though it is not a sufficient condition. However, growth that occurred and benefited only a small segment of society, would not lead to neither achieving effective development, or reducing poverty and income inequality, as the rest of society may in fact be getting poorer, and hence going backwards in terms of overall socio-economic development.

Consequently, it is important for a country to ensure that growth benefits all of the population, increasing not only GDP per capita, but also the share of income held by the poorest sections of the population; halving the population living in absolute poverty (less than US\$1 per day) is the first of the eight UN Millennium Development Goals (MDGs). Such growth is termed pro-poor in the development literature, and is seen as a crucial requirement of any national development programme and plan.

As a country with quite apparent unequal household income distribution, it is critical for Jordan to monitor this aspect of economic development. It is also important to assess the likely impacts of policy actions on income distribution, and to design long-term development strategies that target poverty.

Jordan, however, like many other countries, has established poverty reduction as a development objective and has designed various policies to achieve this objective. Examples include investment in infrastructure, the establishment of free and industrial zone, and the promotion of economic diversification strategy. In addition to, other government policies, such as fuel taxes/subsidies and/or trade liberalization, may not be specifically designed to target poverty, but can have far-reaching effects on the incomes of different kinds of households, and on the economic incentives faced by different sectors of the economy. Notwithstanding the above, the questions; are these policies consistent with government's poverty reduction objectives? Are they going to contribute much more to poverty reduction in the economy? With these in mind, so do external economic events, such as crude oil price increases, global financial crises or drought, can also have unequal effects on different households.

However, without an appropriate economic tool, there is no way to assess the macroeconomic impact of economic policies and external events on income distribution, and especially the status of the poorest households segment of the economy. Accordingly, the social accounting matrix (SAM) is a tool that can provide such an economic analysis. The SAM is a database that provides a snapshot picture of the economy in one year, showing, among other things, how income is generated, how it is distributed among different households, and how different households spend their income on different commodities and purposes. SAM, nonetheless, is used to build economy-wide macroeconomic models explicitly designed to analyze the distributional impacts of policy change, hence measuring the effects on employment, incomes and poverty of different household groups. That is what makes SAM uniquely suited to address Jordan's broad development challenges: promoting sustainable economic growth, lowering income inequalities, and reducing poverty.

The Main Characteristics of SAM

SAM, by large has quite distinctive characteristics and features in the way it is constructed in an economy and used in socio-economic analysis. These characteristics can be summarized as:

- 1. SAM has the ability to explain, in an economically effective way, the nature of the interaction relationships between production, income, consumption, capital accumulation and the rest of the world.
- It brings together data on production created by different activities and income generated by different institutional groups and classes, on the one hand, and the pattern of expenditure of these incomes by these groups, classes and activities on the other.
- 3. In a SAM structural setting, incomings are indicated as receipts for the row accounts in which they are located, and outgoings are indicated as expenditure for their column accounts
- 4. SAM is much wider and broader in contents than an input-output table and from the typical national account. It displays more detail about all kinds of transactions within a national economy.

- 5. SAM structure provides comprehensive information on the structure, composition, level of production, distribution of income among household's income groups or expenditure deciles, and factorial value-added. Equally important, SAM also provides statistical array of information on consumption, production pattern, imports, exports, investment and balance of payments of the economy. Furthermore, it can stipulate more detailed information on income distribution, tax structure of the fiscal side of the economy and on some significant monetary variables.
- 6. SAM identifies and illustrates the distribution of factor incomes of both domestic and foreign origin, over institutional groups and the re-distribution of income over these groups. This is in addition to the fact that, SAM demonstrates the structure of the spending (allocation) of these groups generated income on consumption, investment and savings made by each of these components.
- 7. The entries of SAM table refer to the value of transactions between these different accounts for a given time and place. Therefore, for each particular account, the entries in the row express receipts or revenue for that account whereas the entries in the corresponding column represent the expenditure side of the account.
- 8. It is quite imperative to state that SAM is considered to be an effective tool for macroeconomic development planning, in two significant ways: first, it can provide a comprehensive framework for the structuring and organizing statistical information related to various economic and social variables and structures of the national economy. Second, it can serve as a database for formulating and articulating a variety of macroeconomic models and other modelling choices for the economy, and its different segments.
- 9. Last but not the least, SAM can constitute the ripple effects, where the structure and nature of flows of income in SAM framework, can capture the dynamic of various impacts of a given exogenous change on and throughout the entire economy.

The Main Features of SAM:

A social accounting matrix is simply defined as a single entry accounting system whereby each macroeconomic account or variable is represented by a column for outgoings and a row for incomings. SAM is represented in the form of a square matrix with rows and columns, which bring together data on production and income generation as created by different institutional groups and classes on the one hand, and data about expenditure of these incomes, on the other hand. In SAM structures, incomings are indicated as **receipts** for the row accounts in which they are located, and outgoings are indicated as **expenditures** for their column accounts. De facto, 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 or variable.

That said, SAM is a data system, including both social and economic data for an economy. The main data sources for a SAM are input-output tables, national income statistics, and household income and expenditure statistics. Although SAM is derived from I/O table, statistically SAM is broader than an I/O table. Accordingly, SAM shows more details related to all sorts of transactions within an economy.

However, an I/O table records economic transactions alone, irrespective of the social background of the transactions. Contrarily SAM, as a national account, attempts to classify various institutions to their socio-economic backgrounds instead and in addition to their economic or functional activities. Moreover, SAM provides a conceptual basis to analyze the growth and its resulting distributional issues within the national economy. For instance, SAM shows the distribution of factor incomes of both domestic and foreign origin, over institutional groups and re-distribution of income over other recipient groups. It shows the expenditure of these income groups on consumption, investment and savings made by them. Overall SAM has: two main objectives:

<u>First</u>: Organizing information about the economic and social structure of a country over a period of time, mainly a year, and

Second: Providing statistical basis for the creation of a plausible model capable of presenting a static/dynamic image of the economy, hence simulating the effects of policy interventions and policy alternatives in the economy and on wider ranges.

The Main Uses of SAM for the Economy:

SAM can be of great use in socio-economic development planning and development vision. SAM can be applied to create more social and economic input to any future development vision for the economy, as well as contributing to delineating the main future development objectives. It can be of great assistance in the process of the likely economic growth and poverty reduction strategies and for articulating future development plans. SAM, as has been stated elsewhere, in this report and in this assignment term of reference (TOR), as well as in the corresponding proposal, is considered to be a comprehensive database for any economic, social and fiscal/financial modelling efforts, and definitely would be the right information and disaggregation base for structuring and applying a comprehensive computable general equilibrium (CGE) model for the economy.

SAM, by and large, in its format and contents depicts the entire economy. Production within the national economy is being lead to generate income through labour wages and profits of entrepreneurs which, in turn, these incomes are allocated to institutions components of the economy. Thus, SAM displays the redistribution of the generated income which leads to the national disposable income (NDI) of various institutions. These resulting disposable incomes are either spent on purchasing products and/or saving. The expenditures of the institutions, accordingly, would lead to more production by national industries and generating more supply through importation from outside world. With that in mind, SAM is applied to analyze the relationships between different structures of the economy and income distribution, as well as expenditures among different household income groups. That said the social aspect and people's effective role in the economy is introduced through SAM characteristics of breaking down household sector, of the system national accounts (SNA) and of the input-output table (I/O), into various income groups, consumption deciles and by disaggregating employment in the labour market by different skills and occupations categories. And this is what distinguished SAM from both SNA and I/O structure.

However, historically SAM had been developed and practically used, for various economic applications, by developing countries much more than for developed economies. These are well documented facts, as many of developing countries have pursued centrally driven development policies, and have relied on economic planning as the main approach to development and growth of their economies. Hence, SAM has been widely used for economic planning in many developing economies (see Pyatt and Round, 1985).

With the above in mind, it can be stated that SAM is an effective tool in carrying out, analyzing and quantifying, amongst others, variety of developmental aspects, such as; i) poverty analysis and impacts, whereas SAM provides an analytical capability to describe inequalities among different household groups, through variables like income, expenditure and employment/ education level. This is besides the fact that SAM can identify subgroups in which the households are typically poor, with specific needs which cannot be properly met in these groups, and, above all, it allows for analyses concerning some of the causes and consequences of these circumstances, ii) SAM can be used to determine and measure the socio-economic impacts that monetary policy decisions will have on the economy and population of the country. This, however, can be achieved using the well-established links between employment, income distribution and final household consumption expenditure patterns, with the main macroeconomic variables such as GDP growth rate, price level and price movements, level and rate of wages and salaries, and so on. This, naturally, can be of great assistance and use for the monetary authority, like the central bank of Jordan (CBJ), to shape the monetary policy for the future, even though the year of SAM contents is not current year. This is in addition to iii) an obvious role for SAM in informing fiscal policy decision. It is imperative that the ministry of finance (MOF) needs to monitor the impact of all fiscal policy decisions in order to ensure

tighter control over government spending and feasibility of its tax policies. That said it is a wellknown phenomenon that alternative policy decisions of government spending patterns have different implications across the economy and could have different impacts on the different population and income groups. SAM can, therefore, be used by the MOF, in order to form an understanding of both the economic and social implications of its fiscal policies.

Nevertheless, and in this respect, SAM can be of great help to calibrate, for instance, the followings:

- What sectors that have highest impact (directly and indirectly) on poor households and segments of the economy.
- Would the existing leading sectors in developing Jordanian economy, i.e. construction, mining, telecommunications, etc. continue to grow and expand in the future years, and if not what would be the other activities replacing these presently leading activities in the Jordanian economy.
- How improvement of the health and education sectors and systems would affect the labour skill, supply and productivity, and hence their impacts on the wellbeing of the Jordanian society.
- What trade policy should be pursued in the economy. Hence, encouraging exports that have highest potential for poverty reduction.
- Assessing and measuring the impact of trade liberalization, different tax and tariff rates and revenues on the economic development and poverty reduction.
- Ability to analyze and quantify how development of tourism sector and activities can contribute to poverty reduction on the local level and on the national economy per se.
- What would the future demand of the economy for energy, electricity and water, going to look like, and how can it be best met, in a consistent economic and development manner.

These are very few examples of the likely uses and applications of SAM. However, this report, at a later stage, will give a full account of the uses and applications of SAM for the Jordanian economy.

Why Jordan needs SAM and how it could be benefited from?

For Jordan, the SAM is an extremely valuable tool, providing a model that can help policymakers think systematically about what kind of economic future they would like to see for the economy, and what actions should be taken today in order to achieve that envisaged future. As an economy-wide model, the SAM provides a concrete basis for moving away from segmental stand-alone planning or modelling approaches to integrated, economy-wide planning and modelling approach that captured all segments and sectors of the national economy, under one integrated framework. The Executive Development Programmes (EDP), Medium-Term Fiscal Framework (MTFF), and any future development vision for Jordan are, but few, that can benefit from analysis using SAM-based models.

SAM, therefore, can provide quantitative answers to questions such as:

- Will the growth of leading sectors, in the Jordanian economy, be sufficient to achieve the desired level of GDP growth?
- If Jordan is to move away from being mainly a service economy, how fast will other sectors have to grow to achieve that desired level of development?
- Who will benefit from economic growth? Will the growth strategy reduce poverty significantly?
- Are there some unanticipated constraints and/or conflicts among sectors that might prevent the implementation of all development and poverty reduction strategies?
- What skills will the labour market need, and what education do we need to provide today in order to ensure that Jordanian workers, with the right skills, are available in the future to match the labour market demand?
- How sensitive is the development strategy to external events like exchange rates, energy prices, trade regulations, financial crises, etc?

Nonetheless, integrating the use of SAM modelling in the development planning process will help improve the dialogue regarding feasible economic objectives and providing concrete actions to achieve them. SAM contribution to policy dialogue comes from its ability to quantify the mostly qualitative descriptions of sector strategies that are parts of many planning documents, so that the economic outcomes can be calculated, in a more accurate manner. Examples of such and likely outcomes include; the number of jobs created (by skill-level, by industry, by gender) and the wages paid, the distribution of income among different household income groups and expenditure deciles, the effects of growth in manufacturing on upstream industries (suppliers of inputs like raw materials, electricity, transportation, etc.) and

downstream (users of products by other industries, consumers, transportation, etc.), the balance of trade, etc. That said, SAM is a tool for analyzing economic growth, income distribution and Poverty reduction measures and impacts.

The Social Accounting Matrix for Jordan (JOSAM): A Background

The Jordanian economy can be characterized as an evolving dynamic economy, where it has experienced significant socio-economic and structural changes over the last few years. Along with achieving a positive and sustained growth rate, the Jordanian economy has shown a commendable resilience to the waves of international economic and financial crises, soaring crude oil prices, and the trembling political situations, in the region and nearby. The Jordanian government in the recent years has adopted numerous strategies, policies, visions and development/investment programmes that aimed at creating a diversified economy, with stable and sustained balanced growth, achieving feasible and optimal investment and budgetary resources envelop, resources allocation by region, locality and sector, to reduce, and further, eradicating poverty and improving the overall quality of life for all citizens. However, to have a balanced development programme, plan and budget without gaps, bottlenecks and inconsistencies, required, amongst others, effective, applicable and high quality analytical tools to be in place, in order to plan and implement these, socio-economic, development programmes, plans, budgets, strategies and policies, as well as to measure, monitor and evaluate their impacts and performance.

Few of these measurement tools, that are associated with the theme of this report, its contents and outcomes, which can be empirically analyzed and effectively used in determining the success of the government development plans, budgets, strategies and policies, are; the input-output (I/O) tables and techniques and the social accounting matrix (SAM).

Notwithstanding, the first comprehensive and detailed input-output table for Jordan, has been built in 2009 for the year 2006, under the Jordanian Input-Output Project (JIOP)¹, completed and published by September2010. Few though essential applications have taken place, within and by, the Policies and Strategies Department of the MOPIC², using the final input-output tables and related techniques. These planning applications of the I/O where, for

¹ JIOP is the project that carried out by Department of Statistics (DOS) of the Ministry of Planning and International Cooperation (MOPIC), during the period 2009-2010, to construct the first highly sectoralized disaggregated inputoutput table, based on a full-fledged survey data for 2006. The JIOP has been funded by USAID, and with humility, the Author was privileged to be a principal member and the advisor of the project technical team.

 $^{^2}$ The author was pleased to be part of these selective development applications of I/O modelling techniques within MOPIC, in 2010.

example, and amongst others, to measure the impacts of the government investment and recurrent expenditures on various sectors growth and development, deriving the optimal sectoral allocation of planned total investment, measuring the sectoral –Keynesian- output, income and employment multipliers (direct and indirect and induced), deriving the sectoral linkages and determining the leading and hence development priority sectors in the economy³.

After such brief planning applications, and with the increasing needs of MOPIC for a more comprehensive and integrated modelling tool, with further aspects of decomposition of socio-economic information framework, by different segments of the economy, together with the emphasis on the interacts between social and economic variables and factors. MOPIC, accordingly, has seriously considered constructing a social accounting matrix (SAM) for the economy. This being the case; SAM has been considered the most operative tool that can elaborate on the linkages between supply and demand portions of the economy, with its defined structural and behavioral relationships between various sectors and segments of the national economy, through delineation of the transactions (expenditure and receipts) between these segments. Thus, SAM as an analytical tool is able to analyze various features and relationships, such as the interrelationships between the real economy and its structural income distribution and expenditures among different household income groups.

SAM format divides the household source of income by factors and socio-economic employment groups by occupations and skills. This, however, would link the macroeconomic variables such as income and GDP with social variables, income distribution and household expenditure deciles, their level and pattern of consumption. Hence, this would create a vital tool to measure the poverty level, its indicators as well as having the capability to evaluate and quantify the poverty assessments and impacts. Furthermore, it can be used as a viable instrument to draw the right development policy alternatives, by policy makers and planners that required tackling, among other things, the poverty occurrences in the country. With such comprehensive and diversified blocks of information and linkages, multiple and ripple effects and various types of multipliers can be derived, quantified and used for socio-economic analysis and impact studies. SAM, moreover, as we shall see later, brings together and quantifies the interrelationships between the domestic economy, with its various variables and disaggregated segments, and the rest of the world (ROW), so that the impact, of the global fluctuations and its changing trends and likely developments, on the Jordanian national economy, can be easily identified and worked out.

³ For details of these numerical application, contact the Policies and Strategies Department (PSD) at the Ministry of Planning and International Cooperation (MOPIC).

It is imperative, at this juncture to point out that SAM, is the most reliable structure framework for an economy, to more realistically start building and calibrating a comprehensive integrated macroeconomic-fiscal modelling approach, based on computable general equilibrium (CGE) methodological settings and other related type models.

With the above objectives and desires which signified SAM as an effective analytical, planning and policy making tool, MOPIC has embarked with serious intention, within a substantive specified programme, to construct a social accounting matrix (SAM) for the Jordanian economy. It has, therefore, started the initiation of such efforts around mid-2011⁴.

The Jordanian Social Accounting Matrix (JOSAM): Construction and Structural Classifications

With the above broad nature of required SAM, and given the MOPIC development planning aspirations and policy objectives, for future use of SAM in analyzing and articulating some important planning functions. The constructed SAM for Jordan, accordingly, would be quite comprehensive and detailed, in contrast with some constructed SAM tables in the region, as well as those developed for some developing countries elsewhere⁵.

In the case of Jordan statistics, and hence SAM construction conditions and envisaged number of inside blocks and sizes, it can be stated that the main selected methodology of structuring the Jordanian Social Accounting Matrix (JOSAM), as explained in section below of this report, could be achieved, with such desirable detailed classification and sectoralization scheme. These SAM specifications can be adhered to without much encountered difficulties, and without jeopardizing amid at accuracies. Hence, such an adopted methodological choice is, undoubtedly, the most rational, applicable, and useful in supporting the efforts of constructing a modern and reasonably, highly disaggregated SAM, for Jordan.

The Chart below, demonstrates the decomposed blocks of accounts that forming the social accounting matrix (SAM) for the Jordanian economy.

⁴ The Ministry has earmarked in 2011, a given fund from its internal resources, to start the initial work on structuring a detailed SAM for Jordan (JOSAM). Technical team has been identified to work with an International SAM Specialist/Consultant, for 8 weeks (Beginning June to August 2011). The author has been selected to supervise the team during that time.

⁵ For example; Saudi Arabia SAM (1978) with 22 Sectors, UAE SAM (1990) with 26 Sectors, Namibia SAM (2004) with 30 Sectors, South Africa SAM (2002) with 27 Sectors, to mention but a few.

| Г | | | | Expenditure | | | | | | | | | | | |
|-----------|---------|-------------------------|------------------|---|--------------------------------------|-----------------------------|-------------------------------|-------------------------------|---|--|---|--|--|---|--|
| | | | | Production | Account | | Factors | | | Instituti | Capital | Rest of the | Total Income | | |
| | | Activities Commod | | Commodities | Labor Capital Rent | | Households | Households Corporate | | | Accounts | World Account | | | |
| | | | | | | | | | | NPISH | Other Corporate | | | | |
| | uction | Activities | | | Commodity Domestic Supply | | | | | | | | | | Domestic Supply of Commoditie S |
| - | Prod | Commodities | | Intermediate use of Commodities | | | | | Household Domestic Consumption Expenditure | NPISH Domestic Consumption expenditure | | Government Domestic Consumption Expenditure | Investments & Change in Inventories | Exports | Domestic Use of Commoditie S |
| | | Labor | | Compensation of employee | | | | | | | | | | Labor income from Abroad | Labour Income |
| | Factors | Capital | | GOS (minus) Depreciation | | | | | | | | | | Capital income from Abroad | Capital Income |
| | | Rent | | | | | | | Household paid rent | | | | | Rent income from Abroad | Rent Income |
| ece ipts) | | Households | | | | Labor Income | | Actual & Imputed Income | Inter- Household Transfers | NPISH income distributed to Household | Corporate income distributed to Household | Government Transfers to Households | Profit from shares,bonds,R eturn on Investment | Remittances from Abroad | Household Income |
| Income (R | utions | Corporates | NPISH | | | | | | | | | Government Transfers to NPISH | | NPISH income from Abroad | NPISH Income |
| | Instit | Corporated | Other Corporates | | | | Undistributed Profits | | | | | | | Corporate income from Abroad | Corporate (Enterprises) Income |
| | | Government | | Tax Less subsidies on Production | Tax Less subsidies on Products | Tax on labor | Taxes on Profit | | Taxes on Household income & Property | Social Services Tax | Direct Taxes on Corporates | Forward Balance | Returns on Ioans | Government income or Received From the ROW | Government Revenues |
| | Capit | al Accounts | | Consumption of Fixed Capital (Depreciation) | | | Capital Account | | Household Saving | NPISH Saving | Corporate Saving | Government saving | | Foreign exchange (BoPs) | Total (aggregate) Savings |
| | Rest o | of the World Account | | | Imports | Labor Payments Abroad | Capital Payments Abroad | Rent Payments Abroad | Household imported Consumption & Remittances Abroad | NPISH Transfers Abroad | Corporate Transfers Abroad | Government imported Consumption & Transfers Abroad | Import of Capital Goods | | Total Imports |
| | Total I | Expenditures | | Total Domestic Output | Total Commodity Supply | | | Total Factor Outlay | Household Expenditure | NPISH Expenditures | Corporate Expenditures | Government Expenditure | Aggregate Investment (Total Capital Expenditures) | Total Foreign Exchange Receipts | |

Chart -1- The Structural Format of the Jordanian Social Accounting Matrix (JOSAM)

21/Social Accounting Matrix for Jordanian Economy-JOSAM-

Although, the above framework adopted, SAM could be considered as an ambitious endeavor. It could be mentioned here, that it is quite fortunate to build SAM, currently, as the flows of information needed to fill and/or estimate various contents of JOSAM and its different accounts, are available and improved, now a days, in Jordan. This so, particularly, after the economy has already built and completed a detailed input-output (I/O) table. This is besides the availability of the results of various national significant statistical surveys. However, despite the available flows of information, there were quite substantive conceptual, methodological and other statistical problems associated with the SAM's required data. These problems, nonetheless, have been dealt with in an objective and effective manner, during the assignment period, to produce the Jordanian SAM, with economically feasible, consistent, and homogeneous sets of data.

With the above stated fact, the statistics required to construct SAM for Jordan, have been enhanced, adjusted and derived, in such away, to satisfy the adopted disaggregated settings and final SAM decomposed sub-accounts. At this juncture, it is imperative to point out that the adopted decomposed/disaggregated accounts that form the JOSAM, are depicting the priorities emerging in the Jordanian national economy, in regards of the institutional, social and economic changes that actually taking place, or planned for, in Jordan.

Finally and most importantly, the above template of sub- matrices of the proposed Jordanian SAM has been thoroughly adhered to in order to achieve and complete the final matrix. However, the judgment in this regard for SAM quality can be concluded by stating that: " the case for constructing SAMs ought not to be narrowly judged, or even viewed, in the context of a particular branch of methodology but rather than in the wider perspective of representing data in a more informative and useful way than statistical practices currently permit", (Hayden & Round, 1982).

The Jordan SAM Classifications

1. Commodities and Activities Account:

Activities account

This account shows production by domestic industry (sector); across the activity rows, the amount of each commodity an industry supplies (produced). While, down the activity account columns represent the cost of production which includes the inputs required for production, 'factor inputs' and taxes on production.

Commodities

The commodities account presents the domestic production of different products by industries. This distinction is important as some activities (sectors) may produce more than one commodity. However, reading down the column of the commodity account shows how much of each commodity is supplied by domestic activities, and how much is imported from the Rest of the World (ROW). The other entry in the commodities account column indicates taxes less subsidies on products, include taxes like the fuel levy or import tariffs on specific products. The sum of this column is the total supply of commodities available in the economy, valued at the prices purchasers pay. Reading across the row shows the uses for all commodities: as inputs to domestic production activities, and to final users including households, government, investment and ROW (exports). It is important to state that total use of commodities is equal to total supply.

2. Factor accounts

The factor accounts consist of factor inputs to production; labour, capital, and rent on property. Labour is always recommended to be disaggregated into several types by occupations, skills level or other characteristics. I.e. labour by nationality. While income to capital often delineates; the gross operating surplus (GOS) of formally recognized enterprises from the surplus earned by the self-employed, which is called 'mixed income.' This is because the surplus of sales revenue over input costs includes both a payment for their own labour as well as a payment for capital inputs. However, some factor incomes are earned abroad and some payments must be made to the ROW, for foreign factors used in the national economy.

3. Institution accounts

It often depends on the main institutional players in the economy and statistical data availability, the number of the major institutions that included in a national SAM would be determined. Here, and for the sake of interpretation of SAM sub-matrices (sub-accounts), it may be assumed that there are three institutional categories; households, corporate and government. The Households earn their income (a long the row) by providing labour as a factor of production, and also receiving transfers from other households, from government, from the ROW, and distributed earnings (interest and dividend payments from businesses). While the expenditure of households (down the column) is on payments on purchases of goods and services for consumption, transfers made to other households, taxes paid to government, remittances to ROW and savings. However, household here is classified by different income groups and/or expenditure deciles. As for corporates account, it is suffice to say that corporate income is generated from factor markets for the capital they provide. However, they are using their income by distributing it to households and ROW, paying taxes, and saving. This account, however, has been divided into two, namely: nonprofit institutions serving households (NPISH) and other corporates. Government accounts where the government receives its income from various types of taxation and transfers from the ROW. This, by and large, including development assistance, donors participation in economic support activities. It is like the other institutions, government uses its income for purchases of goods and services, pay salaries, transfers, and saving the difference between income and expenditure.

4. Capital account

The account consists of savings across the row and spending for generating investment and capital accumulation down the column.

5. Rest of the World account

The economy's interactions and relationships with ROW are represented in the last block of matrices of the overall SAM matrix. This is to define that the income is obtained by ROW from sales of imports, such as goods, services and factors of production to the domestic economy. Accordingly, the ROW spends income on the domestic economy as results from its purchases of Jordanian's exports, the use of Jordanian factors of production, labour, capital and others, in the shape of remittances, transfers and foreign net lending and borrowing, which is, in fact, constituting the contents of Jordan's balance of payments (BoPs).

The Jordan SAM Methodology

At this conjuncture, it is worth mentioning that the main<u>methodology</u> that has been used to structure the Jordanian SAM, is based on the **bottom-up** approach, where the matrix is disaggregated with micro driven cells and contents to increase the accuracies and benefits into the Jordanian economy, and to enhance the various uses and applications of the SAM for different impact analysis and measures. This selected bottom-up methodology is of paramount economic and social planning importance, uses and benefits, in contrast with the, widely used, **top-down** approach which is highly aggregated on main macro variables, and hence of limited uses.

This envisaged **bottom-up** methodological approach, to derive SAM, is quite extensive in detailed primary and other data that needs to be collected and obtained to constructing the national SAM, on disaggregated detailed accounts of SAM on bottom-up procedure. Furthermore, this approach will ensure the compatibility of the finally produced Jordanian SAM with the designed main template, shown above, for final structural contents in the completed main SAM, together with its various socio-economic identified blocks, subblocks, sectors, and segments of all accounts within the core country's matrix. Accordingly, rather than using mechanical approach to derive the entries of the detailed cells in various SAM accounts, and hence, creating the required data consistency, rather in **bottom-up** approach inconsistencies are met with more actual data on various socio-economic variables and sectors that required to secure the aimed at consistencies and eliminating the likely discrepancies that otherwise prevailed in other less disaggregated (top-down) approach.

Notwithstanding, the main advantages of the adopted **bottom-up** methodological approach; that SAM, as a base for development planning and socio-economic analysis as well as modelling uses, would be more reliable and better representing, and reflecting actual conditions, of the national economy. Where given inconsistencies can be easily recognized and resolved. This is in addition to the fact that national accounts can be enhanced and further improved in the economy, using such detailed methodology in building SAM. While the main drawbacks of adopting the **bottom-up** approach are; long time required to construct SAM, relatively more data needs to be collected and surveyed, more expertise is needed and accordingly more fund is required.

In case of the Jordan statistics, and hence SAM construction conditions, MOPIC, by and large, needs not to be worried about these requirements of adopting **bottom-up** approach, versus, the top-down. This is due to the fact that Jordan has already constructed and

published a highly disaggregated and detailed input-output table (81 by 81 sectors); with a comprehensive available household's survey results, government budget and closing accounts data, employment survey results, balance of payments (BOPs) statistics and other supplementary statistical information. These, by and large, all have assisted and supported preparing and producing a comprehensive and detailed SAM. Hence, such an adopted methodological choice is, undoubtedly, be the most rational, applicable, and useful choice, for this endeavor.

The Jordanian Social Accounting Matrix (JOSAM) Data Structuring, and Data Sources

In this section of the report on Jordanian social accounting matrix (JOSAM) construction process, an attempt has been made to explain and analyze, in as much details as possibly can, the contents of each account of the JOSAM accounts, their derived data, data format, data sources, and aggregation-disaggregation settings.

The constructed Jordan SAM is detailed in nature. It has 205 active rows and similar active columns. Table -3- below, shows the size of various blocks of the SAM matrix, and hence the total size of the JOSAM itself.

| Component (Block) | Number of Elements |
|--|-----------------------|
| Activity | 81 |
| Commodity | 81 |
| Factors | 18 |
| Labour (Jordanian & Non-Jordanian) | 16 |
| Capital | 1 |
| Rent | 1 |
| Institutions | 23 |
| Households (Jordanian & Non-Jordanian) | 20 |
| Corporate | 2 |
| Government | 1 |
| Capital Account | 1 |
| Rest of the World | 1 |

| Table -1-: The D | imensions of dif | fferent JOSAM's | Components |
|------------------|------------------|-----------------|------------|
|------------------|------------------|-----------------|------------|

1. Commodities and Activities Account:

Activities account: In the Jordanian SAM case, this account consists of 81 activities and the formation of the commodities that produced by these activities have been derived from the make matrix of the Jordanian I/O tables of 2006.

Commodities: The commodity to activity block that represents the demand (use) of various activities (sectors) of different commodities. The entries of this block have been taken from the intermediate use of transaction matrix of the Jordanian 2006 I/O table. Table 2 shows the JOSAM activities and commodities and their ISIC 3.1 sub components.

| Sec No. | SAM Sectors | ISIC 3.1 |
|---------|------------------------------------|------------------------------------|
| 1 | Vegetables | 0112 |
| 2 | Fruits | 0113 |
| 3 | Crops & Other Agriculture | 0111, 0200 |
| 4 | Livestock's & Livestock's Products | 0121 |
| 5 | Poultry and Eggs | 0122 |
| 6 | Fishing | 0500 |
| 7 | Crude Oil and Natural Gas | 1110 |
| 8 | Mining | 1421,1422,1429,1010,1030,1320 |
| 9 | Quarrying | 1410 |
| 10 | Meat and Fish Products | 1511, 1512 |
| 11 | Olive oil and Other Oils | 1514 |
| 12 | Dairy Products | 1520 |
| 13 | Grain Mill Products | 1531, 1532 |
| 14 | Prepared Animal Feeds | 1533 |
| 15 | Bakery Products | 1541 |
| 16 | Sugar & Confectionery | 1531, 1542 |
| 17 | Other Food Products | 1549,1513,1544 |
| 18 | Soft Drink Beverages | 1554 |
| 19 | Alcoholic Drinks | 1551,1553,1552 |
| 20 | Tobacco Products | 1600 |
| 21 | Textile Industry | 1711,1721,1729,1730,1723 |
| 22 | Carpets | 1722 |
| 23 | Clothing | 1810,1820 |
| 24 | Leather products | 1911,1912 |
| 25 | Footwear | 1920 |
| 26 | Wood Products Except Furniture | 2010,2021,2022,2023,2029 |
| 27 | Furniture | 3610 |
| 28 | Paper and Paper Products | 2101,2102,2109, 3720 |
| 29 | Printing and publishing | 2212,2221,2222,2211,2213,2219,2230 |
| 30 | Refinery and Refined products | 2320,2310,2330 |

Table-2: The JOSAM Sectors- Commodities Mapping

27/Social Accounting Matrix for the Jordanian Economy –JOSAM-

| 31 | Fertilizers and Insecticide | 2412,2421 |
|----|-------------------------------------|--|
| 32 | Paint Industry | 2422 |
| 33 | Pharmaceuticals products | 2423 |
| 34 | Soap and Detergents | 2424 |
| 35 | Other Chemical Products | 2411,2413,2429,2430 |
| 36 | Rubber Products | 2511,2519 |
| 37 | Plastics Products | 2520 |
| 38 | Cement Industry | 2694 |
| 39 | Bricks, Articles of Cement Concrete | 2695 |
| 40 | Cutting Shaping Finishing Stone | 2696 |
| 41 | Manufacture of glass and clay | 2610,2691,2693,2692 |
| 42 | Other Non -Metallic Minerals | 2699 |
| 43 | Iron and Steel Industry | 2710, 3710 |
| 44 | Non Ferrous Metal Industry | 2720 |
| 45 | Basic Metals Products | 2731,2732 |
| 46 | Structural Metals Products | 2811 |
| 47 | Fabricated Metal Products | 2812,2892,2893,2899,2813,2891 |
| 48 | Machinery and Equipments | 2915,2919,2911,2912,2913,2914 |
| 49 | Domestic Appliances | 2930 |
| 50 | Electrical Machinery | 3110,3120,3130,3140,3150,3220,3230,3000,3190,3210 |
| 51 | Engineering Equipments | 3311,3320,2921,2922,2924,2925,2929,2926,2923,2927, |
| | | 3312,3313,3330 |
| 52 | Motor Vehicles Bodies, Trailers | 3410,3420,3430 |
| 53 | Other Transport Equipments | 3512,3520,3530,3591,3592,3599,3511 |
| 54 | Jewelry | 3691 |
| 55 | Other Manufacturing Industries | 3692,3699,3693,3694 |
| 56 | Electricity | 4010 |
| 57 | Water Supply | 4100 |
| 58 | Construction | 4500 |
| 59 | Trade | 50, 51, 52 |
| 60 | Hotels and Restaurants | 55 |
| 61 | Road Transport | 6021,6022,6023 |
| 62 | Rail Transport | 6010 |
| 63 | Pipelines Transport | 6030 |
| 64 | Sea Transport and Ports | 6110,6120 |
| 65 | Air Transport | 6210,6220 |
| 66 | Services Incidental to transport | 6301,6303,6309 |
| 66 | Storage and Warehousing | 6302 |
| 67 | Road Transport | 6021,6022,6023 |
| 68 | Travel, Tour Operators Services | 6304 |
| 69 | Postal Services | 6411,6412 |
| 70 | Telecommunication services | 6420 |
| 71 | Information and Computer Technology | 7220,7221,7229,7230,7240,7250,7290 |
| 72 | Banking sector | 65 |
| 73 | Insurance | 66, 6720 |

28/Social Accounting Matrix for the Jordanian Economy –JOSAM-

| 74 | Other Financial Services | 6711,6712,6719 |
|----|-----------------------------------|--------------------------------------|
| 75 | Business services | 71,72,73,741,742,743,7499 |
| 76 | Real Estate | 7010,7020 |
| 77 | Ownership of dwellings | - |
| 78 | Education | 80 |
| 79 | Health Services | 85 |
| 80 | Public administration and defense | 75 |
| 81 | Other Services | 7491,7492,7493,7494,7495,91,92,93,95 |

2. Factor accounts

The factor accounts consist of factor inputs to production, such as; labour, capital, and rent of property.

Labour: is disaggregated into eight types of occupation and skill level. Also in the case of Jordanian economy the labour factor has been classified by nationality, i.e. Jordanian and non-Jordanian, figure (1), shows the occupation composition by nationality. As we are dealing with the monetary aspects and flows, accordingly, when considering factors, particularly labour, wages rather than numbers are shown. Accordingly, table -3- presents the share of the labour compensation by occupation and nationality in 2006.





| Sector | Sector Name | e Clerks | | Craft & related trade workers | | Elementary Occupations | | Legislators, Senior officials and managers | | Plant & machine operators & assemblers | | Professionals | | Service workers &Shop &market sales workers | | Technic asso profes | ians and ciate ssionals |
|--------|-------------------------------------|----------------|---------------|----------------------------------|-------------------|---------------------------|-------------------|--|-----------------------|--|-------------------|---------------|-----------------------|---|-------------------|---------------------------|-------------------------------|
| No. | Sector | Jordanian | non-Jordanian | Jordanian | non- Jordanian | Jordanian | non- Jordanian | Jordanian | non- Jordania n | Jordanian | non- Jordanian | Jordanian | non- Jordania n | Jordanian | non- Jordanian | Jordanian | non- Jordanian |
| 1 | Vegetables | 0.0% | 0.0% | 0.0% | 0.0% | 36.9% | 60.6% | 0.0% | 0.0% | 0.9% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 2 | Fruits | 0.0% | 0.0% | 0.0% | 0.0% | 36.9% | 60.6% | 0.0% | 0.0% | 0.9% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 3 | Crops & Other Agriculture | 0.0% | 0.0% | 0.0% | 0.0% | 36.9% | 60.6% | 0.0% | 0.0% | 0.9% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 4 | Livestock's & Livestock's Products | 0.0% | 0.0% | 0.0% | 0.0% | 88.9% | 9.9% | 0.0% | 0.0% | 1.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5 | Poultry and Eggs | 0.0% | 0.0% | 0.0% | 0.0% | 36.3% | 61.3% | 0.0% | 0.0% | 0.9% | 1.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 6 | Fishing | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 7 | Crude Oil & Natural Gas | 11.8% | 0.0% | 9.1% | 0.0% | 4.5% | 0.6% | 12.6% | 0.0% | 8.1% | 0.0% | 30.3% | 3.6% | 3.7% | 0.0% | 15.7% | 0.0% |
| 8 | Mining | 10.9% | 0.0% | 11.2% | 0.2% | 5.5% | 0.6% | 8.5% | 0.1% | 15.1% | 0.2% | 25.2% | 0.0% | 0.7% | 0.0% | 21.5% | 0.1% |
| 9 | Quarrying | 3.9% | 0.2% | 3.9% | 1.0% | 6.8% | 6.6% | 19.7% | 0.0% | 31.5% | 11.7% | 6.9% | 0.0% | 1.2% | 0.1% | 6.4% | 0.0% |
| 10 | Meat & Fish Products | 5.7% | 0.3% | 12.6% | 1.1% | 20.2% | 10.7% | 11.6% | 0.2% | 5.0% | 0.1% | 15.3% | 0.3% | 0.8% | 0.8% | 15.3% | 0.1% |
| 11 | Drive Oil & Other Oils | 16.7% | 0.1% | 2.7% | 0.2% | 18.9% | 6.1% | 10.7% | 0.3% | 26.6% | 3.5% | 5.4% | 3.3% | 0.5% | 0.0% | 5.2% | 0.0% |
| 12 | Crain mill products | 5.2% | 0.1% | 1.4% | 0.5% | 23.6% | 1.7% | 12.9% | 0.1% | 31.2% | 2.5% | 10.2% | 1.1% | 3.8% | 1.0% | 7.0% | 0.1% |
| 13 | Grain mill products | 13.3% | 0.3% | 3.9% | 0.7% | 10.9% | 3.1% | 8.1% | 3.2% | 13.5% | 2.5% | 10.2% | 0.0% | 22.0% | 0.3% | 9.6% | 0.5% |
| 14 | Pakony Broducts | 5.070 C 10/ | 0.0% | 1.5% | 22.00/ | 10.070 9 E0/ | 5.770 | 2 E0/ | 0.1% | 25.070 | 2.370 | 4.070 | 0.4% | 1/1 90/ | 16.00/ | 1 /10/ | 0.0% |
| 15 | Sugar & Confectionen | 7 2% | 0.0% | 2 20% | 0.1% | 2/ 7% | 5.9% | 12 2% | 0.1% | Q 1% | 2.0% | 7 5% | 0.0% | 2 20% | 0.0% | 1/1 2% | 0.0% |
| 17 | Other Food Products | 7.4% | 2.0% | 2.9% | 1.4% | 18.4% | 3.6% | 13.2% | 0.7% | 24.0% | 2.7% | 11.7% | 0.2% | 1.0% | 0.0% | 10.6% | 0.3% |
| 18 | Soft Drink Beverages | 6.0% | 0.0% | 3.7% | 0.0% | 27.1% | 2.0% | 14.3% | 0.2% | 25.6% | 0.3% | 8.6% | 0.6% | 0.4% | 0.0% | 10.9% | 0.2% |
| 19 | Alcoholic Drinks | 5.9% | 0.0% | 2.1% | 0.0% | 12.1% | 0.7% | 26.5% | 0.0% | 28.4% | 1.3% | 6.3% | 0.0% | 6.3% | 0.0% | 10.3% | 0.0% |
| 20 | Tobacco Products | 6.7% | 0.1% | 3.4% | 0.0% | 20.3% | 0.1% | 10.6% | 0.2% | 31.9% | 0.0% | 12.4% | 0.4% | 3.8% | 0.0% | 10.0% | 0.1% |
| 21 | Textile Industry | 3.8% | 0.0% | 47.7% | 3.1% | 10.5% | 1.2% | 6.5% | 0.3% | 17.6% | 1.8% | 2.1% | 0.1% | 1.9% | 0.1% | 3.3% | 0.1% |
| 22 | Carpets | 5.5% | 0.0% | 9.0% | 2.8% | 7.9% | 0.2% | 8.4% | 0.0% | 48.3% | 0.2% | 9.6% | 0.0% | 0.7% | 0.0% | 7.5% | 0.0% |
| 23 | Clothing | 1.2% | 0.9% | 19.6% | 39.3% | 3.4% | 3.5% | 2.6% | 1.5% | 6.7% | 14.2% | 0.7% | 0.3% | 1.0% | 0.8% | 2.0% | 2.4% |
| 24 | Leather products | 5.2% | 0.0% | 11.4% | 1.0% | 16.4% | 1.5% | 18.7% | 0.0% | 31.7% | 2.9% | 6.5% | 0.0% | 0.3% | 0.0% | 4.3% | 0.0% |
| 25 | Footwear | 2.2% | 0.6% | 34.4% | 3.6% | 9.7% | 0.7% | 9.7% | 0.0% | 32.1% | 4.5% | 0.9% | 0.0% | 1.6% | 0.0% | 0.0% | 0.0% |
| 26 | Wood Products Except Furniture | 0.6% | 0.0% | 64.9% | 19.9% | 3.6% | 1.5% | 4.6% | 0.6% | 1.5% | 0.0% | 0.9% | 0.0% | 1.0% | 0.4% | 0.5% | 0.0% |
| 27 | Furniture | 3.1% | 0.0% | 56.1% | 18.9% | 3.0% | 2.3% | 5.5% | 0.4% | 2.3% | 0.0% | 3.2% | 0.0% | 1.3% | 0.0% | 3.9% | 0.0% |
| 28 | Paper & Paper Products | 7.4% | 0.4% | 6.8% | 0.1% | 16.4% | 2.7% | 14.8% | 0.1% | 28.7% | 6.2% | 6.6% | 0.1% | 1.0% | 0.0% | 8.4% | 0.1% |
| 29 | Printing & Publishing | 9.5% | 0.1% | 24.3% | 0.8% | 4.7% | 0.3% | 17.3% | 0.7% | 7.4% | 0.1% | 20.1% | 0.3% | 0.5% | 0.0% | 13.8% | 0.2% |
| 30 | Refinery & Refined products | 8.9% | 0.0% | 12.4% | 0.0% | 12.5% | 0.0% | 5.2% | 0.0% | 24.6% | 0.0% | 16.1% | 0.0% | 1.8% | 0.0% | 18.5% | 0.0% |
| 31 | Fertilizers & Insecticide | 9.5% | 0.4% | 1.9% | 0.0% | 4.5% | 1.3% | 11.7% | 8.0% | 4.2% | 0.0% | 10.4% | 21.6% | 1.8% | 0.0% | 23.2% | 1.6% |
| 32 | Paint Industry | 6.4% | 0.0% | 1.1% | 0.0% | 19.7% | 3.2% | 21.0% | 0.0% | 21.7% | 3.5% | 6.6% | 0.0% | 3.9% | 0.2% | 12.7% | 0.0% |
| 33 | Pharmace uticals products | 7.1% | 0.0% | 0.9% | 0.0% | 14.6% | 0.4% | 21.1% | 0.7% | 10.7% | 0.1% | 30.8% | 0.4% | 0.3% | 0.3% | 12.6% | 0.1% |
| 34 | Soap and Detergents | 9.9% | 0.0% | 4.4% | 0.1% | 24.5% | 7.4% | 12.0% | 0.0% | 17.0% | 1.3% | 7.1% | 0.0% | 2.3% | 0.0% | 13.7% | 0.3% |
| 35 | Other Chemical Products | 9.9% | 0.3% | 2.9% | 0.0% | 18.0% | 3.8% | 24.2% | 0.0% | 17.8% | 0.0% | 9.9% | 0.0% | 0.5% | 0.0% | 12.4% | 0.4% |
| 36 | Rubber products | 0.0% | 0.0% | 3.1% | 0.0% | 7.2% | 12.3% | 16.5% | 22.5% | 31.0% | 0.0% | 7.5% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 37 | Plastics products | 5.6% | 0.3% | 3.5% | 0.3% | 12.7% | 5.7% | 19.7% | 0.6% | 31.5% | 6.2% | 6.4% | 0.1% | 0.5% | 0.0% | 6.8% | 0.2% |
| 38 | Cement industry | 6.2% | 0.0% | 3.6% | 1.4% | 7.8% | 1.5% | 15.8% | 0.4% | 6.9% | 0.0% | 25.1% | 0.1% | 0.4% | 0.0% | 30.2% | 0.7% |
| 39 | Bricks, articles of cement concrete | 2.3% | 0.1% | 5.3% | 4.8% | 3.8% | 4.6% | 3.3% | 0.8% | 16.5% | 52.6% | 2.3% | 0.0% | 0.2% | 0.9% | 2.4% | 0.0% |
| 40 | joutung Snaping Finishing Stone | 1.9% | 1.1% | Z.2% | 12.3% | Z.5% | 0.8% | 5.7% | U.0% | 18.5% | 43.2% | Z.Z% | 0.0% | U.3% | U.1% | 3.4% | U.2% |

Table-3: Sectoral-Occupation Compensation Share Matrix by nationality

| 41 | Manufacture of Glass and Clay | 6.4% | 0.0% | 24.3% | 2.2% | 11.1% | 3.8% | 19.5% | 0.0% | 14.9% | 2.2% | 7.4% | 0.0% | 2.8% | 0.0% | 5.5% | 0.0% |
|----|-------------------------------------|-------|------|-------|-------|-------|-------|-------|------|-------|------|-------|------|-------|-------|-------|------|
| 42 | Other Non- Metallic Minerals | 0.0% | 0.0% | 0.0% | 0.0% | 6.4% | 25.5% | 33.4% | 0.0% | 23.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 11.4% | 0.0% |
| 43 | Iron and Steel Industry | 7.8% | 0.0% | 16.5% | 2.8% | 7.6% | 1.6% | 12.3% | 0.0% | 20.1% | 3.4% | 9.5% | 0.0% | 0.5% | 0.2% | 16.4% | 1.4% |
| 44 | Non Ferrous Metal Industry | 4.9% | 0.0% | 11.1% | 10.3% | 11.4% | 5.8% | 7.3% | 0.0% | 15.3% | 3.4% | 6.1% | 1.1% | 1.0% | 0.0% | 20.9% | 1.3% |
| 45 | Basic Metals Products | 8.7% | 0.0% | 13.0% | 1.5% | 8.8% | 7.1% | 9.0% | 0.0% | 12.2% | 3.4% | 11.2% | 0.4% | 0.3% | 0.0% | 24.4% | 0.0% |
| 46 | Structural Metals Products | 1.1% | 0.0% | 71.4% | 3.9% | 0.5% | 1.9% | 8.0% | 0.0% | 5.1% | 2.6% | 3.3% | 0.0% | 0.1% | 0.1% | 2.2% | 0.0% |
| 47 | Fabricated Metal Products | 4.2% | 0.2% | 48.2% | 2.1% | 6.7% | 2.3% | 11.2% | 0.0% | 14.5% | 1.7% | 6.0% | 0.0% | 0.3% | 0.0% | 2.4% | 0.1% |
| 48 | Machinery and Equipments | 6.4% | 0.0% | 31.0% | 0.8% | 5.2% | 0.0% | 7.3% | 0.0% | 5.4% | 0.0% | 25.9% | 0.6% | 0.0% | 0.1% | 17.2% | 0.0% |
| 49 | Domestic Appliances | 5.7% | 0.0% | 22.3% | 1.0% | 8.3% | 1.3% | 17.2% | 0.0% | 18.9% | 2.4% | 9.4% | 0.0% | 1.8% | 0.0% | 11.7% | 0.0% |
| 50 | Electrical Machinery | 5.2% | 0.1% | 15.8% | 2.3% | 11.5% | 1.1% | 18.1% | 0.0% | 19.2% | 0.5% | 14.6% | 0.2% | 0.7% | 0.1% | 10.5% | 0.0% |
| 51 | Engineering Instruments | 2.2% | 0.8% | 11.4% | 53.8% | 3.3% | 0.5% | 8.4% | 2.2% | 1.6% | 0.3% | 2.4% | 0.4% | 0.2% | 0.3% | 11.6% | 0.5% |
| 52 | Motor Vehicles Bodies, Trailers | 4.7% | 0.0% | 44.7% | 4.2% | 7.2% | 1.9% | 10.7% | 0.2% | 4.5% | 0.0% | 7.6% | 0.0% | 0.9% | 0.1% | 12.3% | 0.9% |
| 53 | Other Transport Equipments | 4.7% | 0.0% | 5.9% | 3.4% | 0.8% | 4.7% | 32.6% | 0.0% | 4.7% | 0.9% | 18.6% | 0.0% | 0.0% | 0.0% | 16.8% | 7.0% |
| 54 | Jewelery | 1.8% | 0.0% | 64.3% | 19.1% | 2.0% | 0.0% | 6.4% | 0.0% | 1.1% | 0.0% | 3.3% | 0.0% | 0.2% | 0.0% | 1.7% | 0.0% |
| 55 | Other Manufacturing Industries | 2.6% | 0.0% | 6.0% | 0.0% | 15.1% | 0.0% | 28.9% | 0.0% | 21.0% | 0.0% | 13.7% | 0.7% | 0.5% | 0.0% | 11.5% | 0.0% |
| 56 | Electricity | 13.5% | 0.0% | 14.7% | 0.0% | 6.5% | 0.0% | 5.3% | 0.0% | 5.3% | 0.0% | 23.8% | 0.0% | 0.2% | 0.0% | 30.8% | 0.0% |
| 57 | Water Supply | 16.5% | 0.0% | 26.6% | 0.1% | 9.4% | 0.0% | 6.3% | 0.0% | 16.0% | 0.0% | 11.7% | 0.0% | 0.0% | 0.0% | 13.3% | 0.0% |
| 58 | Construction | 4.6% | 0.2% | 11.5% | 9.7% | 4.8% | 20.0% | 11.2% | 1.0% | 8.3% | 0.3% | 14.3% | 0.6% | 0.0% | 0.0% | 12.3% | 1.2% |
| 59 | Trade | 5.8% | 0.2% | 10.0% | 2.2% | 7.8% | 3.3% | 14.0% | 0.9% | 3.8% | 0.7% | 10.5% | 0.1% | 22.0% | 4.2% | 14.2% | 0.4% |
| 60 | Hotels & Restaurants | 10.8% | 0.3% | 2.6% | 0.4% | 5.1% | 2.7% | 16.3% | 4.6% | 1.0% | 0.1% | 3.6% | 0.1% | 26.9% | 20.9% | 4.3% | 0.2% |
| 61 | Road Transport | 16.0% | 0.4% | 8.3% | 0.3% | 4.6% | 2.6% | 9.3% | 0.2% | 36.9% | 5.1% | 7.9% | 0.3% | 0.5% | 0.5% | 7.1% | 0.1% |
| 62 | Rail Transport | 19.4% | 0.0% | 17.3% | 0.0% | 7.4% | 0.0% | 10.2% | 0.0% | 29.1% | 0.0% | 7.5% | 0.0% | 0.0% | 0.0% | 9.1% | 0.0% |
| 63 | Pipelines transport | 19.4% | 0.0% | 17.3% | 0.0% | 7.4% | 0.0% | 10.2% | 0.0% | 29.1% | 0.0% | 7.5% | 0.0% | 0.0% | 0.0% | 9.1% | 0.0% |
| 64 | Sea Transport & Ports | 19.3% | 2.9% | 0.0% | 0.0% | 2.0% | 1.1% | 28.5% | 4.6% | 5.0% | 0.5% | 21.3% | 1.6% | 0.2% | 0.0% | 10.6% | 2.3% |
| 65 | Air Transport | 8.6% | 0.0% | 4.9% | 0.0% | 5.8% | 0.0% | 16.7% | 0.6% | 6.4% | 0.0% | 41.9% | 0.3% | 4.2% | 4.7% | 5.6% | 0.0% |
| 66 | Services Incidental to Transport | 16.9% | 0.1% | 3.3% | 0.1% | 12.9% | 4.2% | 19.0% | 0.2% | 11.5% | 0.0% | 9.4% | 0.1% | 0.7% | 0.0% | 21.4% | 0.1% |
| 67 | Storage & Warehousing | 19.2% | 0.2% | 0.9% | 0.0% | 4.6% | 0.0% | 18.5% | 0.0% | 13.2% | 0.0% | 20.8% | 0.0% | 1.3% | 0.0% | 21.3% | 0.0% |
| 68 | Travel, Tour Operators Services | 34.8% | 0.1% | 0.1% | 0.0% | 2.9% | 1.4% | 29.3% | 3.5% | 5.0% | 0.0% | 14.2% | 1.2% | 0.3% | 0.0% | 7.2% | 0.0% |
| 69 | Postal Services | 33.4% | 0.0% | 0.0% | 0.0% | 0.3% | 0.5% | 32.9% | 0.0% | 1.0% | 0.0% | 20.6% | 0.0% | 0.6% | 0.0% | 10.8% | 0.0% |
| 70 | Telecommunication Services | 6.5% | 0.0% | 4.0% | 0.0% | 0.6% | 0.1% | 21.3% | 0.1% | 1.0% | 0.0% | 37.3% | 0.0% | 0.2% | 0.0% | 28.9% | 0.1% |
| 71 | Information and Computer Technology | 6.5% | 0.0% | 4.0% | 0.0% | 0.6% | 0.1% | 21.3% | 0.1% | 1.0% | 0.0% | 37.3% | 0.0% | 0.2% | 0.0% | 28.9% | 0.1% |
| 72 | Banking Sector | 14.7% | 0.0% | 0.3% | 0.0% | 3.9% | 0.1% | 25.2% | 0.3% | 1.2% | 0.0% | 34.4% | 0.1% | 0.1% | 0.0% | 19.6% | 0.1% |
| 73 | Insurance | 11.4% | 0.0% | 0.5% | 0.0% | 2.6% | 0.4% | 34.6% | 0.2% | 0.4% | 0.0% | 18.7% | 0.0% | 0.2% | 0.0% | 31.0% | 0.1% |
| 74 | Other Financial Sector | 22.5% | 0.1% | 0.1% | 0.0% | 2.5% | 1.1% | 27.7% | 0.4% | 1.2% | 0.0% | 22.4% | 0.2% | 0.2% | 0.0% | 21.6% | 0.0% |
| 75 | Business Services | 12.0% | 0.1% | 2.3% | 0.0% | 5.0% | 1.6% | 17.2% | 0.5% | 1.1% | 0.0% | 38.0% | 0.3% | 4.4% | 0.2% | 16.7% | 0.5% |
| 76 | Real estate | 13.1% | 0.0% | 1.5% | 0.0% | 18.7% | 10.2% | 26.7% | 0.0% | 2.1% | 0.1% | 10.0% | 0.0% | 2.3% | 0.3% | 15.0% | 0.1% |
| 77 | Ownership of Dwellings | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 78 | Education | 3.9% | 0.0% | 0.4% | 0.0% | 4.3% | 0.1% | 10.0% | 0.1% | 1.8% | 0.0% | 73.8% | 1.1% | 0.9% | 0.0% | 3.5% | 0.0% |
| 79 | Health Services | 13.4% | 0.3% | 0.8% | 0.0% | 4.7% | 0.4% | 4.1% | 0.0% | 2.0% | 0.0% | 30.7% | 1.1% | 5.5% | 0.3% | 36.0% | 0.5% |
| 80 | Public Administration and Defense | 21.1% | 0.0% | 2.7% | 0.0% | 12.6% | 2.2% | 9.6% | 0.0% | 6.0% | 0.0% | 24.0% | 0.0% | 0.3% | 0.0% | 21.4% | 0.0% |
| 81 | Others Services | 13.4% | 0.0% | 1.9% | 0.5% | 26.4% | 0.7% | 9.8% | 0.3% | 1.7% | 0.0% | 16.4% | 1.2% | 12.7% | 1.9% | 12.8% | 0.2% |

Source: Derived from DOS, employment survey 2006.

Capital: While income to capital has been calculated as the gross operating surplus (GOS) minus the depreciation of capital, by each of the economic activities of the JOSAM.

Rent: Here the rent is calculated as a sum up of both; actual rent which is composed of the rents that have been paid to the owner by the occupants of the property, and imputed rent which reflect the self-occupied their own property.

However, some factor incomes are earned abroad and some payments have been made to the rest of the world (ROW), for foreign factors used in the Jordanian economy. Besides there are payments from rest of the word for Jordanian factors employed outside Jordan.

3. Institution accounts: The numbers of the major institutions that are included in the Jordanian SAM are, de facto, three institutional categories, namely; households, corporate and government.

Households: in building SAM for Jordan, the household sector has been expanded within the system of national accounts (SNA) framework, by adapting the (micro level) household statistics to the national accounting -cum- input-output control totals. These concepts and assertions are preserved, while the data is disaggregated by household characteristics, using the data from the household expenditure and income survey (HEIS). However, this has been shown by socio-economic attributes such as; nationality (Jordanian and non-Jordanian), expenditure deciles (10 brackets) and commodity consumed (81 commodities). Table (4) illustrates the expenditure range of households' deciles, while table (5) shows the income composition of Jordanian and non-Jordanian Households by source.

| Deciles Number | Lower Range in JD | Upper Range in JD |
|-----------------------|-------------------|-------------------|
| 1 | 84 | 518 |
| 2 | 519 | 649 |
| 3 | 649 | 767 |
| 4 | 768 | 882 |
| 5 | 882 | 1003 |
| 6 | 1003 | 1153 |
| 7 | 1153 | 1367 |
| 8 | 1368 | 1694 |
| 9 | 1694 | 2346 |
| 10 | 2346 | 37844 |

 Table 4: Definition of Households Deciles by Range of their Expenditure Level

Source: Derived from DOS, Household Expenditure and Income Survey, 2006.

Table 5: Percentage Share of Jordanian and Non-Jordanian Households Income by Source

| Source Of Income | Jordanian | Non-Jordanian |
|-------------------------------------|-----------|---------------|
| Employment Income | 46 | 38 |
| Self-Employed Income | 14 | 25 |
| Capital Gain | 19 | 15 |
| Transfers from Government | 14 | 2 |
| Transfers from Abroad (Remittances) | 3 | 14 |
| Other Income | 5 | 5 |

Source: Derived from DOS, Household Expenditure and Income Survey, 2006.

However, the two tables below depicting the sources of income obtained by Jordanian and non-Jordanian households by deciles during 2006, respectively.

 Table 6: Percentage distribution of Sources of Income by Different Household Deciles

 (Jordanian)

| Source of Income Households Deciles | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------------------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| Employment Income | 4.1 | 6.1 | 6.8 | 8.1 | 8.5 | 9.5 | 10.9 | 11.9 | 14.2 | 19.9 |
| Self-Employed Income | 2.8 | 3.9 | 6.5 | 7.0 | 8.8 | 7.3 | 9.7 | 11.2 | 13.8 | 29.2 |
| Capital Gain | 2.2 | 3.4 | 4.1 | 4.7 | 5.4 | 6.6 | 8.5 | 10.0 | 14.0 | 41.0 |
| Transfers from Government | 6.1 | 6.6 | 7.2 | 7.8 | 8.5 | 8.8 | 10.2 | 11.6 | 12.6 | 20.6 |
| Transfers from Abroad (Remittances) | 1.0 | 1.0 | 1.3 | 1.6 | 2.6 | 4.6 | 8.0 | 10.9 | 23.3 | 45.8 |
| Other Income | 5.5 | 6.1 | 6.9 | 7.4 | 7.8 | 8.5 | 9.5 | 10.4 | 14.3 | 23.6 |

Source: Derived from DOS, Household Expenditure and Income Survey, 2006.

Table 7: Percentage distribution of Sources of Income by Different Household Deciles (Non-Jordanian)

| Source of Income Households Deciles | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------------------|------|------|-----|-----|-----|------|-----|------|------|------|
| Employment Income | 8.0 | 7.2 | 4.2 | 7.4 | 7.8 | 7.3 | 9.3 | 10.6 | 10.3 | 27.8 |
| Self-Employed Income | 3.3 | 14.9 | 2.7 | 1.9 | 6.7 | 6.7 | 8.5 | 26.6 | 6.8 | 22.0 |
| Capital Gain | 4.2 | 6.3 | 3.7 | 2.5 | 5.7 | 4.7 | 5.8 | 8.3 | 7.1 | 51.8 |
| Transfers from Government | 5.4 | 3.7 | 1.1 | 9.3 | 0.4 | 24.3 | 0.7 | 2.1 | 24.7 | 28.3 |
| Transfers from Abroad (Remittances) | 1.5 | 0.1 | 1.2 | 0.8 | 0.9 | 1.2 | 2.1 | 7.0 | 9.0 | 76.3 |
| Other Income | 21.1 | 6.8 | 3.6 | 6.6 | 7.6 | 6.1 | 2.7 | 18.2 | 10.3 | 16.9 |

Source: Derived from DOS, Household Expenditure and Income Survey, 2006.

Corporates account: this account has been divided into two sub accounts in the JOSAM namely; nonprofit institutions serving households (NPISH), and other corporates. Both information for the two sub accounts have been derived from the I/O tables and national accounts data.

Government account: this account records government received revenues by different components (tax and non-tax revenues), as well as the government expenditure by different items, types, and commodities/services. The detailed data on these government revenues and expenditures have been taken from the government closing accounts for 2006, and adapted to the I/O and SAM adopted classification, particularly for the expenditures. This is in addition to the transfers to and from the rest of the world (ROW), including development assistance and donor payments. The latter is obtained from the balance of payments statistics. Figure (3) below juxtaposes the composition of government tax revenue by type of taxation.





4. Capital account: the entries of this account have been obtained, in a deduced manner, from the Jordanian national I/O tables, national accounts data, household expenditure and income survey (HEIS), government closing account, and capital account of the balance of payments statistics (BoPs).

5. Rest of the World account: Jordanian economic and other interactions and relationships with ROW have been quantified within the SAM context through: (i) imports of Jordan of intermediate (raw materials), investment (capital) and consumption goods and services, (ii) Jordan exports of goods and services to outside world, (iii) remittances and other transfers from and to the rest of the world. All these statistics have been collected and obtained from the foreign trade statistics, national account, and the balance of payments statistics, it is worth

mentioning that the data on imports and exports have, amongst others, been restructured to reflect the activity and commodity classifications adopted by the I/O tables and JOSAM.

The Balancing of the matrix

As it can be seen from the above sections and the statistical data-mix, that used in deriving social accounting matrix for Jordan (JOSAM), the construction of the matrix has been based on a balanced input-output tables, complemented by data from the results of well-structured and implemented various economic and social surveys. These also have been supplemented with various actual accounts information such as; nation accounts, government closing accounts, balance of payments statistics, to mention but a few. Accordingly, and despite of such actual and realistic data, we have experienced discrepancies and imbalances between the rows and columns, of different SAM blocks and accounts. To handle such discrepancies and to create final balanced SAM for all rows and columns and for all blocks and accounts, the biproportional algorithm of RAS method has been applied, with numerous iterations, hence, achieving the balanced SAM for the Jordanian economy for 2006.

The final Balanced Social Accounting Matrix for the Jordanian Economy

The completed and balanced JOSAM, including (81) activities and (81) commodities, and with an overall size of (205) rows and identical number of respective columns, has been finalized and organized electronically, as well as in hardcopy, and readily available at the Ministry of Planning and International Cooperation (MOPIC). To obtain a copy of the full-fledged JOSAM, please contact the Director of the Policies and Strategies Department (PSD) at MOPIC, Amman.

In order to have a manageable size of the balanced and completed the JOSAM for 2006, to be part of this final assignment report, in addition to the fact that it would be quite useful to have a smaller version of the large matrix that can be used to attain quick view on the structure and behavior of various macro and micro variables of the Jordanian economy. Accordingly, the main activities and commodities of the full size JOSAM, have been aggregated into (11) activities and similar number of commodities, using the adopted Jordanian system of national accounts (SNA) sectoralization scheme, with some useful adjustments, i.e. having communication & information and computer technology (ICT), and tourism as stand-alone sectors. Meanwhile, all other blocks and accounts of the originally constructed JOSAM have stayed as they are, with their full size, within this reduced size JOSAM presented in this report (see table -8-).

| | | Expenditure Production Account | | | | | | | | | | | | | | |
|---|---------------------|-----------------------------------|--|----------|------------------|----------------|----------|-----------------|----------|----------|----------------|---|----------|--------------------------------|----------|-------------------|
| | | | | | | P | oductio | n Acco | unt | | | | | | | |
| | | | | | | | | | | Act | ivities. | | | | | |
| | | | | | 1 | 2 | \$ | 4 | = | 6 | 7 | â | 9 | 10 | 11 | 12 |
| | | | | | Sing of a second | | New York | Reach y Charles | 5 | 1 | Ę | The second se | | Transferrance International | | STRAFT GENER |
| | | | Agriculture, Hunting, Forestry and Fishin | 1 | 、 - | - | | | | | | | | - | | 0.000 |
| | | | | 2 3 | | | | | | | | | | | | 0.000 |
| | 1 | | <u>Construction</u> Trade | | | | | | | | | | | | | 0.000 |
| | | | Touriam Transportation & Storage | 7 | | | | | | | | | | | | 0.000 |
| | | | Communication & ICT Finance, Insurance, Real Estate and | 9 | | | | | | | | | | | | 0.000 |
| | - | | Services Sector | 11 | | | | | 0.000 | | | | | | | 0.000 |
| | | | Agriculture, Hunting, Forestry and Fishin, Mining & Queroving | 13 | 51.0945 | 1.391 | 107.819 | 0.343 | 0.000 | 37.905 | 19.477 | 36.949 | 39.075 | 21.405 | 78.630 | 420.493 |
| | | | | 15 | 183.880 | 77.782 | 1339.172 | 71.034 | 704 314 | 338.944 | 112.237 | 283.779 | 228.655 | 224.304 | 434.040 | 4000.625 |
| | | | Construction | 17 | 143.384 | 43.130 | 372.208 | 47.061 | 230.460 | 71.529 | 33.007 | 129.039 | 72.295 | 392.099 | 121.733 | 1859.235 |
| | | 1 | | 19 | 3.382 | 7.274 | 92.233 | 7.584 | 37.140 | 14.546 | 6.847 | 23.033 | 14.473 | 18.338 | 23.033 | 248.884 |
| | | | Communication & ICT | 21 | 49.114 | 16.106 | 204.181 | 16.793 | 82.235 | 23.524 | 12.014 | 43.801 | 25.797 | 38.370 | 43.438 | 559.653 |
| | | | Business Services | 22 | 78.375 | 23.977 | 329.324 | 27.085 | 132.637 | 41.167 | 19.378 | 74.277 | 41.608 | 62.210 | 70.061 | 902.099 |
| | | | Sub-Total Commodities | 24 | 692.065 | 301.363 | 4511.276 | 395.652 | 1859.675 | 1008.700 | 310.342 | 1055.679 | 629.857 | 1098.960 | 1204.605 | 12864.333 |
| | | | menegera -Jordenien- | 25 | 0.000 | 10.245 | 1.29.880 | 10.682 | 52.510 | 16.236 | 7.842 | 29.294 | 16.410 | 24.333 | 107.017 | 404.250 |
| | | | managera - Non-Jordanian - | 26 | 0.000 | 0.456 | 4.271 | 0.000 | 2.959 | 0.918 | 0.452 | 1.487 | 0.909 | 1.249 | 6.034 | 18.736 |
| | | | Professionals - Jordanian - Professionals - Non-Jordanian - | 27 | 0.000 | 0.017 | 3.872 | 0.000 | 2.798 | 0.869 | 0.409 | 1.406 | 36.213 | 34.147 | 3.725 | 591.904 17.065 |
| | | | professionals -Jordanian- | 29 | 0.000 | 12.408 | 138.838 | 12.933 | 63.346 | 19.661 | 9 .233 | 33.474 | 19.871 | 29.711 | 129.394 | 488.890 |
| | | | Technicians and associate professionals - Non-Jordanian - | 30 | 0.000 | 0.262 | 2.634 | 0.000 | 1.699 | 0.527 | 0.216 | 0.854 | 0.322 | 0.709 | 3.473 | 10.896 |
| | | 1 | Clerka - Jordanian - Clerka - Non-Jordanian - | 31 32 | 0.000 | 9.871 0.183 | 124.938 | 10.292 | 0.975 | 0.303 | 7.363 0.142 | 28.224 0.498 | 0.299 | 0.411 | 1.994 | 559.257 |
| | | - | Service workers &Shop &marketsales workers -Jordanian- | 22 | 0.000 | 4.821 | 39.003 | 3.108 | 24.613 | 7.639 | 3.390 | 12.378 | 7.721 | 11.344 | 30.334 | 185.657 |
| | | | Service workers &Shop &marketsales workers - Non-Jordanian - | 34 | 0.000 | 1.799 | 12.018 | 0.000 | 9-473 | Z.9940 | 1.384 | 4.348 | 0.000 | 1.089 | 19.380 | 52.631 |
| | • | | Craft & related trade workers - Jordanian- | 35 | 0.000 | 3.903 | 74.771 | 0.135 | 30.142 | 9.333 | 4.404 | 16.197 | 9.260 | 14.137 | 61.665 | 251.990 |
| _ | | | Craft & related trade workers - Non- Jordanian - | 36 | 0.000 | 2.502 | 22.063 | 1.026 | 13.172 | 4.088 | 1.075 | 3.417 | 0.000 | 0.896 | 26.948 | 75.787 |
| | | | Plant & machine operators & assemblers -Jordanian- | 37 | 21.125 | 6.630 | 84.308 | 0.934 | 33.935 | 10.539 | 4.961 | 19.015 | 10.651 | 13.928 | 67.465 | 283.525 |
| | | | Plant & machine operators & assemblers - Non-Jordanian - | 38 | 4_369 | 1.395 | 12.340 | 0.372 | 7.344 | 2.279 | 0.934 | 2.071 | 0.000 | 0.844 | 13.025 | 47.574 |
| - | | | Elementary occupations -Jordanian- Elementary occupations - Non- | 39 | 23.291 | 7.932 | 100.339 | 8.270 | 40.501 | 12.570 | 3.917 | 22.681 | 12.705 | 18.996 | 82.857 | 338.280 |
| | | 夏 | Gross Operating Surplus | 41 | 347.308 | 108.927 | 1380.914 | 113.372 | 336.170 | 172.622 | 81.234 | 311.438 | 174.470 | 347.703 | 1137.823 | 5552.221 |
| | | 1 | Rent | 42 | 0.000 | 0.000 | 0.000 | 0.000 | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | Sub-Total Pactora | 43 | 409.977 | 199.659 | 2492.455 | 197.121 | 1024.085 | 317.852 | 149.194 | 565.289 | 511.596 | 1155.456 | 2095.094 | 8915.755 |
| | | | Household decile 1 income - Non | 43 | | | | | | | | | | | | 0.000 |
| | | | Houschold decile Z income -Jordanian | 46 | | | | | | | | | | | | 0.000 |
| | | | Household decile Z income - Non Jordanian | 47 | | | | | | | | | | | | 0.000 |
| | | | Household decile 5 income -Jordanian Household decile 5 income - Non | 48 | | | | | | | | | | | | 0.000 |
| | | | Jordanian Houschold decile 4 income -Jordanian | 50 | | | | | | | | | | | | 0.000 |
| | | | Heuscheld decile 4 income - Non Jordanian | 51 | | | | | | | | | | | | 0.000 |
| | | | Household decile 5 income - Jordanian Household decile 5 income - Non | 52 | | | | | | | | | | | | 0.000 |
| | | | Heuscheid desile 6 inseme -Jerdanian | 53 | | | | | | | | | | | | 0.000 |
| | | 1 | Houschold decile 6 income - Non Jordanian | | | | | | | | | | | | | 0.000 |
| | | | Household decile 7 income -Jordanian | 56 | | | | | | | | | | | | 0.000 |
| | 1 | | | 57 | | | | | | | | | | | | 0.000 |
| | | | Household decile Sincome - Non | 39 | | | | | | | | | | | | 0.000 |
| | | | Houschold decile 9 income -Jordanian | 60 | | | | | | | | | | | | 0.000 |
| | | | Household decile 9 income - Non Jordanian | 61 | | | | | | | | | | | | 0.000 |
| | | | Household decile 10 income -Jordanian | 62 | | | | | | | | | | | | 0.000 |
| | | | Houschold decile 10 income - Non Jordanian | 63 | | | | | | | | | | | | 0.000 |
| | | Other Corporate | | | | | | | | | | | | | | 0.000 |
| | | 1 | | | | | | | | | | | | | | |
| | | l l | Gevernment | 66 | 40.737 | 12.783 | 162.032 | 13.328 | 63.267 | 20.237 | P .333 | 36.330 | 20.474 | 30.612 | 34.473 | 446.090 |
| | | 1 | Sub-Tetal Inistitutions | 67 | 40.757 | 12.785 | 162.052 | 13.578 | 63.267 | 20.257 | 9.555 | 36.350 | 20.474 | 30.612 | 34.475 | 446.090 |
| | Account | 1 | Capital (Investment | 68 | 38.032 | 30.420 | 383.844 | 19.613 | 133.320 | 48.208 | 2.938 | 86.980 | 48.724 | 72.849 | 82.043 | 968.77Z |
| | the the World | | Reat of the World | 69 | | | | | | | | | | | | 0.000 |
| | Account | | Totel Expedie editure | 70 | 1178.850 | 544.424 | 7351.405 | 625.697 | 3104.347 | 1395.016 | 472.008 | 1740.498 | 1010.650 | 2337.877 | 3416.218 | 23194.969 |

| | | | | | | | | | | Expe | enditure | | | | | |
|--|---|---|--|--|--|---|---|--|---|---|--|---|---|--|--|---|
| | | | | | | | | | | Product | Ion Accour | nt | | | | |
| | | | | | 12 | 1 14 | 1 15 | 1 16 | 17 | Com | modities | 1 30 | 1 | | 72 | 34 |
| | | | | | Address and a | 14 | | 16 | E C | 12 | 19 | 20 | 21 | Antonio de la conceptación de la | | |
| | Province of the second s | Į | Agriculture, Hunting, Forestry and Fishin Mining & Quarying Manufacturing Electricity & Water Construction Tourism Transportation & storage Communication & ICT Finance, Insurance, Real Estate and Business Services | 1 2 4 5 6 7 8 9 9 | 1178.337 0.000 6.640 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 | 0.000 307.769 25.353 0.000 0.000 0.000 0.000 0.000 0.000 0.000 | 0.000 0.000 7239.902 0.000 0.000 0.000 132.188 0.000 0.000 0.000 | 0.079 0.000 527.075 0.000 0.000 0.000 63.226 0.000 0.000 | 0.000 0.000 3.968 0.000 3077.033 0.000 0.000 0.000 0.000 0.000 | 0.000 6.317 31.299 3.935 0.000 261.676 48_588 232.630 32.873 360.335 | 0.000 0.000 0.000 0.000 111.389 75.971 71.726 13.993 0.000 | 0.348 24.171 24.944 0.000 456.681 79.894 1120.428 0.000 0.000 | 0.000 0.000 0.000 0.000 29.107 0.000 18.833 963.784 0.274 | 0.066 2.781 10.022 1.887 14.240 125.499 23.303 42.197 0.000 1955.977 | 0.000 3.385 7.078 89.850 13.074 408.664 244.252 59.265 0.000 41.292 | 1178.830 544.424 7351.405 623.697 3104.347 1393.016 472.008 1740.493 1010.650 2357.877 |
| | | | Agriculta Sub-rotal Activities Agricultare, Hunting, Forestry and Fishini Minning & Quarrying Manufacturing Trade Construction Trade Transportation & storage Communication & itora Finance, Insurance, Real Estate and Finance, Seal Estate and Services | 11 12 13 14 15 16 17 18 19 20 21 22 23 | 1134.977 | 533.322 | 7375.038 | 590.381 | 3083.002 | 1413.607 | 460.786 | 1706.456 | 4.717 | 2364.347 | 3461.322 | 23194.965 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 |
| | 3 | 3 | Sub-Total Commodities Legislators, Senior officials and managers - Jordanian- Professionals - Jordanian- Professionals - Jordanian- Professionals - Non-Jordanian - Technicians and associate professionals - Non-Jordanian - Clarks - Jordanian- Glarks - Jordanian- Service workers & Shop & marketsales workers - Jordanian- Service workers & Shop & marketsales workers - Non-Jordanian - Service workers & Shop & marketsales workers - Non-Jordanian - | 24 25 26 27 29 30 31 32 33 33 34 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 |
| | | | Jordanian- Craft Related trade workers - Non- Jordanian- Statt Related trade workers - Non- Jordanian- Plant & machine operators & Sasemblers Jordanian- Basemblers - Non-Jordanian- Elementary occupations - Non- Jordanian- Gross Operating Surplus | 35 36 37 38 39 40 41 | | | | | | | | | | | | 0.000 0.000 0.000 0.000 0.000 |
| | | - | Rent Sub-Total Factors Housebold declie à locome -Jordanian | 42 43 44 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | tertitation descent | | Household decile 3 Income -Jordanian Household decile 3 Income - Non Jordanian Household decile 3 Income - Jordanian Household decile 3 Income - Jordanian Household decile 3 Income - Jordanian Household decile 4 Income - Jordanian Household decile 4 Income - Non Jordanian Household decile 5 Income - Non Jordanian Household decile 5 Income - Jordanian Household decile 5 Income - Jordanian Household decile 6 Income - Jordanian Household decile 6 Income - Jordanian Household decile 6 Income - Jordanian Household decile 5 Income - Non Jordanian Household decile 5 Income - Jordanian Household decile 6 Income - Jordanian Household decile 5 Income - Non Jordanian Household decile 10 Income - Non Jordanian | 44 45 46 47 48 50 50 53 53 54 53 54 53 56 57 57 58 58 58 60 61 62 63 64 63 64 63 | SB.321 | 364.009 | 561.577 | 5.790 | 3.722 | 0.035 | 0.024 | 4.402 | 0.008 | 7.787 | 0.348 | 0.000 |
| | Capital Account | 1 | Sub-Total Inistitutions Capital (Investment | 67 | 58.321 | 364.009 | S61.577 | S.790 | 3.722 | 0.055 | 0.024 | 4.402 | 0.002 | 7.727 | 0.348 | 0.000 |
| | Rest of the World Account | | Rest of the World | 69 | 191.998 | 1198.356 | 1848.773 | 19.063 | 12.252 | 0.182 | 0.077 | 14.490 | 0.025 | 12.611 | 1.147 | 3298.974 |
| | | | Total Expndenditure | 70 | 1435.296 | 2095.686 | 9785.389 | 615.234 | 3098.975 | 1418.844 | 460.227 | 1725.358 | 1016.750 | 2384.745 | 3462.817 | 27499.981 |

37/Social Accounting Matrix for the Jordanian Economy – JOSAM-

| | | | | Expenditure | | | | | | | | | | | | | | | | | | | |
|---|--------------------|---------------------|--|----------------|---------|--------|----------|---|-----------------|--------|---------|----------------|----------------|--------|----------------|--------|---------|-------------|---------|------------|----------|---------------|--------------------|
| | | | | | | | | | | | | | Fact | ors | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | 1 | | |
| | | | | | | | | | | | | | abeaur | | | | | | | | Capital | Rent | |
| | | | | | 25 | 26 | 1 | 28 | 29 | 30 | 31 | 32 | 1 | 1 2 | 1 | 30 | 37 | | 39 | 40 | 41 | 42 | 43 |
| | | | | | 11 | | | , in the second s | | | | | | | 1. | | | Piero Piero | 1. | | | | 5 |
| | | | | | | | | Ĩ | | | | 2 | | | | | | | | Minister 1 | | 2 | |
| | | | | | 11 | 1 | ž | | į i | p 1 | • | 9 | 1 | A AND | 8 | | | | | 1. | 8 | | ~ |
| | | | Agriculture, Hunting, Forestry and Fishing Mining & Quarrying | 1 2 | | | | | | | | | | | | | | | | | | | 0.000 |
| | _ | | Manufacturing Electricity & Water | 3 4 5 | | | | | | | | | | | | | | | - | | | | 0.000 |
| | | | Trade Tourism | | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Transportation & Storage Communication & ICT | 8 9 | | | | | | | | | | | | | | | | | | | 0.000 |
| | E . | | Finance, Insurance, Real Estate and Business Services | 10 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Sub-Total Activities Agriculture, Hunting, Forestry and Fishing | 12 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | Mining & Quarrying Manufacturing | 14 15 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Electricity & Water Construction | 16 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Trade Tourism Transportation & Storage | 18 19 20 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | - | Communication & ICT Finance, Insurance, Real Estate and | 21 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Business Services Services | 23 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Legislators, Senior officials and managers - lordanian- | 24 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | Legislators, Senior officials and managers - Non-Jordanian - | 26 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Professionals - Jordanian- Professionals - Non-Jordanian - | 27 28 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Technicians and associate professionals - Jordanian- Technicians and associate professionals - | 29 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | • | Non-Jordanian - Clerks -Jordanian- | 30 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | 9 | Clerks - Non-Jordanian - Service workers &Shop &market sales | 32 | | | | | | | | | | | | | | | | | | | 0.000 |
| |] | | Workers "Jordanian" Service workers &Shop &market sales workers - Non-Jordanian - | 34 | | | | | | | | | | | | | | | | | | | 0.000 |
| | - | | Craft & related trade workers -Jordanian- Craft & related trade workers - Non- | 35 | | | | | | | | | | | | | | | | | | | 0.000 |
| 1 | | | Jordanian - Plant & machine operators & assemblers - | 37 | | | | | | | | | | | | | | | | | | | 0.000 |
| Ľ | | | Jordanian- Plant & machine operators & assemblers - Non-Jordanian - | 38 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Elementary occupations - Jordanian- Elementary occupations - Non-Jordanian - | 39 40 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | bital | Gross Operating Surplus | 41 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | ž | Rent | 42 | | | | | | | | | | | | | | | | | | | 0.000 |
| | | | Sub-Total Factors Household decile 1 Income -Jordanian | 43 44 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 0 | 0.000 | 0.000 6.771 | 0.000 | 0.000 8.432 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | Household decile 1 Income - Non Jordanian | 45 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0000 | 0.000 | a.000 | 0.000 | 0.425 | 0.000 | 0.612 | a.000 | 0.397 | 0.000 | 1.138 | | 6.811 | 9.384 |
| | | | Household decile 2 Income - Jordanian | 46 | 19.841 | 0.000 | 43.777 | 0.000 | 24.000 0.000 | 000.0 | 0.000 | a.000 | 9.150 | 0.000 | 0.000 | 0.000 | 13.740 | 0.000 | 0.000 | 0.000 | | 38.567 | 195.969 6.197 |
| | | | Household decile 3 income -Jordanian | 48 | 23.570 | 0.000 | \$2.00S | 0.000 | 28.511 | 0.000 | 22.620 | a.000 | 10.870 | 0.000 | 13.536 | 0.000 | 16.322 | 0.000 | 19.474 | 0.000 | | 45.816 | 232.803 |
| | | | Household decile 3 Income - Non Jordanian Household decile 4 Income -Jordanian | 49 50 | 27.937 | 0.000 | 61.642 | 0.027 | 33.794 | 0000 | 26.906 | a.000 | 0.000 | 0.084 | 0.000 | 0.120 | 19.347 | 0.078 | 23.082 | 0.224 | | 1341 54306 | 1.875 275.941 |
| | | | Household decile 4 Income - Non Jordanian | 51 | 0.000 | 0.110 | 0.000 | 0.098 | 0.000 | 0.065 | 0.000 | a.000 | 0.000 | 0.299 | 0.000 | 0.431 | a.000 | 0.280 | 0.000 | 0.802 | | 4.801 | 6.887 |
| | | 3 | Household decile 5 income - Jordanian | 52 | 30.904 | 0.000 | 68.188 | 0.000 | 37.383 | 0.000 | 0.000 | 0.000 0.021 | 0.000 | 0.000 | 0.000 | 0.000 | 21.401 | 0.000 | 0.000 | 0.000 | | 2.703 | 305.246 |
| | 5 | | Household decile 6 income -Jordanian | 54 | 32,890 | 0.000 | 72.569 | 0.000 | 39.785 | 0.000 | 31.675 | a.000 | 15.168 | 0.000 | 18.888 | 0.000 | 22.776 | 0.000 | 27.174 | 0.000 | | 63.932 | 324.857 |
| | | | Household decile 6 income - Non Jordanian Household decile 7 income -Jordanian | 55 | 40.440 | 0.165 | 89.228 | 0.147 | 48.918 | 000.0 | 381.947 | 0.000 0.000 | 0.000 | 0.449 | 23.224 | 0.647 | 28.005 | 0.420 | 33.412 | 0.000 | | 7.200 | 10.230 |
| | | | Household decile 7 income - Non Jordanian | 57 | 0.000 | 0.000 | 0.000 | 0.154 | 0.000 | 0.000 | 0.000 | 0.058 | 0.000 | 0.470 | 0.000 | 0.677 | a.000 | 0.440 | 0.000 | 1.260 | | 7.538 | 10.596 |
| | | | Household decile 8 Income - Jordanian | 58 59 | 45.119 | 0.000 | 99.552 | 0.000 | 54.578 | 0.000 | 43.453 | a.000 | 20.808 | 0.000 | 0.000 | 1.091 | 31.245 | 0.000 | 37.278 | 2.030 | | 87.704 | 445.647 17.352 |
| | | | Household decile 9 Income -Jordanian | 60 | SS.204 | 0.000 | 121.804 | 0.000 | 66.777 | 0.000 | 53.166 | a.000 | 25.459 | 0.000 | 31.702 | 0.000 | 38.229 | 0.000 | 45.610 | 0.000 | | 107.308 | \$45.260 |
| | | | Household decile 9 Income - Non Jordanian Household decile 10 Income - Jordanian | 61 62 | 0.000 | 0.000 | 232.605 | 0.173 | 127.523 | 0.000 | 101_528 | 0.000 0.000 | 48.617 | 0.530 | 60.541 | 0_763 | 73.005 | 0.496 | 87.101 | 1.420 | | 8.497 | 11.995 1041.265 |
| | | | Household decile 10 Income - Non Jordanian | 63 | 0.000 | 0.729 | 0.000 | 0.650 | 0.000 | 0.434 | 0.000 | 0.245 | 0.000 | 1.990 | 0.000 | 2.86S | a.000 | 0.000 | 0.000 | 5.331 | | 31.897 | 44.141 |
| | | 1 | Other Corporate | 64 | | | | | | | | | | | | | | | | | 4101.710 | | 4101.710 |
| | | | Government | 66 | 90.673 | 4.029 | 200.063 | 3.594 | 109.682 | 2.396 | 87.324 | 1353 | 41_816 | 10.994 | 52.071 | 15.831 | 62.792 | 10.284 | 74.915 | 29.460 | 315.796 | | 1113.071 |
| | | 6 | Sub-Total Inistitutions | 67 | 486,682 | 5.472 | 1073,830 | 5.235 | 588.713 | 3.010 | 468,709 | 1.779 | 224,444 | 16.439 | 279,489 | 23,671 | 337,032 | 13.517 | 402.103 | 44,051 | 4417,506 | 857.074 | 9248,746 |
| | Capital Account | 1 | Capital (Investment | 68 | | | | | | | | | | | | | | | | | 751.519 | | 751.519 |
| | Rest of | | | | | | 1 | | | | | | | L | | | | | + | | | | |
| | World | | Rest of the World | 69 | 0.000 | 13.265 | 0.000 | 11.630 | 0.000 | 7.006 | 0.000 | 4.455 | 0.000 | 36.192 | 0.000 | 52.116 | 0.000 | 33.857 | 0.000 | 96.984 | 1039.635 | 580.244 | 1876.466 |
| | | Total Expidenditure | | | 486.682 | 18.736 | 1073.830 | 17.065 | 588.713 | 10.896 | 468.709 | 6.225 | 224.444 | 52.631 | 279.489 | 75.787 | 337.032 | 47.374 | 402.103 | 141.035 | 6208.659 | 1437.318 | 11876.730 |

38/Social Accounting Matrix for the Jordanian Economy – JOSAM-

| | I | | | | _ | | | | | | | | | | | | | Exp | venditu | re | | | | | | | | | | | |
|-----|---------|---------|---|----------|------------|----------|----------|----------|------------------|----------|-----------------|----------|----------|----------|---------------|---------|-------------------|----------|--|----------------|-------------------|--------|---------------|--------|---------|-----------|-----------|--|-----------------------------|-------------------|----------------------|
| | | | | | | | | | | | | | | | Instit | tutions | Accoun | ts | | | | | | | | | | | Capital | World | |
| - | | | | | | | | | | | | | | | | | | | | | | | | | 1 | - 1 | | | Account | Account | |
| | | | | | | | | | | | | | | House | al se data | | | | | | | | | | C | a a subar | Germannet | | 2. Change in investories | Reat of the World | |
| | - | | | | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 35 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| | | | | | 1 | le 1 | 2 m | le 2 | 1 | a ta | 1 | le le | s i | le S | le 6 Defen | le 6 | test a | le 7 | a de la compañía de | No. | e a | le le | | Si in | | g | | ų, | 1 | 3 | |
| | | | | | | N N | | New York | | | | No. | | | | No. | | | | - New | | | | | ž | | | 1 international and the second s | | 5 | |
| | | | | | 11 | | | | 11 | 11 | 11 | | 11 | | | | 11 | 11 | 11 | | 11 | 11 | 11 | | ž | 8 | ê | | i | |) į |
| | | | | | <u>* 8</u> | 18 | - ¥ | 1 | <u>* 8</u> | 1 | - ¥ | 18 | - ¥ | 1 | - 8 | 1 | - ¥ | 1 | - ¥ | 1 | - ¥ | 1 | - 8 | - B | | | | ল | 9 e | - | |
| | | | Agriculture, Hunting, Forestry and Fishing Mining & Querrying | 1 2 | - | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | | 1175.550 |
| | | | Manufacturing Electricity & Water | 3 4 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | | 7551.405 |
| | 5 | | Construction Trade | 5 | | | | - | | | | | | | | | | | | | | | | | | | | 0.000 | | | 5104.547 1595.016 |
| | 1 | 8 | Touriam Transportation & Storage | 7 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | | 472.005 |
| | | | Communication & ICT Finance, Insurance, Real Estate and | 9 | - | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | | 1010.650 |
| | - | | Business Services Services Sector | 11 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | | 5416.215 |
| | - 1 | | Sub-Total Activities Agriculture, Hunting, Forestry and Fishing | 12 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 25194.965 |
| | | | Mining & Querrying Menufecturing | 14 | 4.342 | 3.580 | 5.847 | 5.3955 | 8.542 333.380 | 1.575 | 7.802 | 2.481 | 3.878 | 3.240 | 9.075 | 3.003 | 11.147 129.194 | 4.790 | 214.754 | 0.387 0.434 | 15.720 255.321 | 5.393 | 493.305 | 19.543 | 4.334 | | 832.035 | 117.500 2715.410 | 852.750 1333.081 | 1735.275 | 2095.687 9785.589 |
| | | 1 | Electricity & Water Construction | 16 | 4.990 | 1.057 | 27.375 | 1.710 | 7.891 | 0.330 | 9.412 38.101 | 0.729 | 42.378 | 0.257 | 44.351 | 1.072 | 33.447 54.435 | 1.415 | 81.798 | 1.200 | 74.325 | 1.583 | 141.935 | 3.003 | 47.305 | | 72.435 | 226.919 918.605 | 321.139 | 0.000 | 615.254 5098.975 |
| | | | Trade Tourism | 18 | 4,333 | 0.483 | 12 313 | 0.783 | 14.7872 | 0.247 | 17.000 | 0.576 | 1.755 | 0.429 | 39.793 | 0.479 | 24.302 | 0.000 | 27.590 | 0.050 | 15,114 | 0.733 | 25.565 | 2.542 | 9.020 | | 141.782 | 410.110 | 145.372 | 75.852 | 1415.544 460.387 |
| | | | Transportation & Storage Communication & ICT | 20 | 7.072 | 0.303 | 9.004 | 1.052 | 11.399 | 0.380 | 13.300 | 0.255 | 35.321 | 0.343 | 35.819 | 0.375 | 39.424 | 0.482 | 37.314 | 0.807 | 281.523 | 0.557 | 50.847 | 3.432 | 38.540 | | 111.045 | 541.683 524.705 | 3.435 | 245.979 | 1725.358 |
| | | | Finance, Insurance, Real Estate and Susiness Services | 22 | 44.200 | 2.005 | 80.343 | 3.355 | 89.907 | 1.085 | 83.378 | 1.432 | 92.734 | 1.885 | 97.000 | 2.083 | 119.122 | 2.779 | 135.255 | 3.870 | 182.847 | 3.083 | 330.802 | 32.459 | 27.228 | | 135.575 | 1371.832 | 0.000 | 130.815 | 2584.745 |
| 1 1 | | | Sub-Total Commodities | 24 | 202.641 | 9.790 | 272.975 | 10.595 | 527.092 | 5.177 | 356.884 | 6.817 | 427.180 | 2.441 | 457.282 | 10.197 | 562.508 | 13.441 | 623.908 | 17.941 | 767.816 | 15.209 | 1466.273 | 57.124 | 386.963 | 0.000 | 2221.869 | 8265.497 | 2955.045 | 5454.085 | 27499.985 |
| | | | Jordanian- | 25 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 82.432 | 455.552 |
| | | | Non-Jordanian - | 26 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 10100 | 18.756 |
| | | | Professionals - Non-Jordanian - Technicians and associate professionals - | 28 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 0.000 | 17.065 |
| | | | Jordanian- Techniciana and associate professionala - | 29 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 99.823 | 588.715 |
| | | | Non-Jordanian - Clarka -Jordanian- | 30 | - | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 78.477 | 10.895 |
| | | 1 | Clarks - Non-Jordanian - Service workers &Shop &market sales | 32 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 0.000 | 6.225 |
| | | | workers -Jordanian- Service workers &Shop &market sales | 33 | - | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 38.786 | 224.444 |
| | 2 | | workers - Non-Jordanian - Craft & related trade workers -Jordanian- | 34 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 47.499 | 279.489 |
| | | | Craft & related trade workers - Non- Jordanian - | 36 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 0.000 | 75.787 |
| 151 | | | Plant & machine operators & assemblers - Jordanian- | 37 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 53.507 | \$\$7.052 |
| 1 | | | Plant & machine operators & assemblers - Non-Jordanian - | 38 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 0.000 | 47.374 |
| | | | Elementary occupations -Jordanian- Elementary occupations - Non-Jordanian - | 39 40 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 0.000 | 402.105 |
| | | Capital | Gross Operating Surplus | 41 | | | | | | | | | | | | | | | | | | | | | | | | 0.000 | | 878.435 | 6208.659 |
| | f | ĩ | Rent | 42 | \$1.708 | 1.020 | 43.777 | 2.651 | 50.079 | 0.886 | 59.729 | 1.143 | 00.431 | 1.505 | E2.494 | 1.661 | an. 195 | 2.218 | SL 577 | 2.902 | 338.534 | 2.497 | 222 505 | a.#25 | | | | 868.000 | | 509-315 | 1457.515 |
| 1 H | | | Sub-Totel Factors Household decile 1 income -Jordanian | 43 | 51.708 | 1.626 | 45.227 | 2.651 | 50.079 | 0.866 | 59.729 | 1.145 | 66.431 | 1.505 | 62.424 | 1.681 | 85.555 | 2.218 | 96.877 | 2.962 | 116.514 | 2.497 | 222.503 | 8.925 | 0.000 | 0.000 | 0.000 | \$65.000 97.052 | 0.000 | 2092.976 | 11876.751 |
| | | | Household decile 1 income - Non Jordanian | 45 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.538 | 0.000 | 3.478 | 4.005 | 0.000 | 0.000 | 15.559 |
| | | | Household decile 2 income -Jordanian | 46 | 0.000 | 0.000 | 1.709 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.951 | 307.337 | 19.851 | 151.659 | 19.901 | 22.505 | 570.014 |
| | | | Household decile 2 income - Non Jordanian Household decile 3 income -Jordanian | 47 | 0.000 | 0.000 | 0.000 | 0.000 | 2.352 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.482 | 12.130 | 73.383 | 14.574 | 23.641 | 28.735 | 439.883 |
| | | | Household decile 3 income - Non Jordenian | 49 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.302 | 3.735 | 0.685 | 4.521 | 0.092 | 0.000 | 7.055 |
| | | | Mousehold decile 4 income -Jordenian | 50 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.325 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.125 | 351.332 | 27.733 | 186.277 | 28.022 | 30.000 | 521.950 |
| | | | Mousehold decile 4 income - Non Jordenian Mousehold decile 5 income -Jordenian | 51 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.300 | 387,380 | 30.850 | 2.456 | 30.996 | 35.055 | 9.343 577.772 |
| | | 1 | Mousehold decile 5 income - Non Jordanian | 53 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 7.521 | 1.378 | 8.904 | 0.000 | 0.000 | 12.766 |
| | 1 | 4 | Household decile 6 income -Jordenien | 54 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.334 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4.2000 | 177.500 | 37.878 | 219.959 | 32.990 | 37.307 | 615.024 |
| | î | | Household decile 6 income - Non Jordanian Household decile 7 income -Jordanian | 55 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 8.878 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.975 | 212.739 | 40.336 | 271.705 | 40.565 | 45.872 | 15.917 |
| | | | Household decile 7 income - Non Jordanian | 57 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.847 | 3.864 | 3.000 | 0.000 | 18.549 |
| | | | Household decile 8 income -Jordanian | 58 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 8.708 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 244.047 | 44.737 | 304.179 | 45.250 | 51.179 | 846.261 |
| | | | Household decile 8 income - Non Jordanian Household decile 9 income -Jordanian | 60 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 12.815 | 0.000 | 0.000 | 0.000 | 8.357 | 298.598 | 54.783 | 374.331 | 35.372 | 82.819 | 1037.552 |
| | | | Household decile 9 income - Non Jordanian | 61 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.022 | 0.000 | 0.000 | 0.000 | 0.000 | 4.338 | 4.555 | 4.324 | 0.000 | 20.757 |
| | | | Household decile 10 income -Jordanian Household decile 10 income - Non | 62 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 40.735 | 0.000 | 33.578 | 570.225 | 304.578 | 737.110 | 305.742 | 119.551 | 2003.697 |
| | ŀ | ł | Jordanian NPISH | 64 | | | | | | | | | | | | | | | | | | | | | | | 250.247 | 250.247 | | 803.335 | 865.805 |
| | ŀ | , i | Other Corporate | 65 | | <u> </u> | <u> </u> | | | <u> </u> | <u> </u> | <u> </u> | <u> </u> | <u> </u> | | | <u> </u> | <u> </u> | | | | | | | | | | 0.000 | | 2144.080 | 6245.800 |
| | | | Government | 66 | 5.725 | 0.294 | 7.500 | 0.484 | 8.047 | 0.350 | 30.790 | 0.207 | 12.001 | 0.272 | 12.335 | 0.304 | 35.438 | 0.400 | 17.501 | 0.335 | 21.049 | 0.453 | 40.397 | 1.012 | 33.397 | 490.440 | 28.945 | 750.598 | \$0.548 | 107.811 | 3509.600 |
| | | | Sub-Tetal Inistitutions | 67 | 0.055 | 0.505 | 2.515 | 0.495 | 11.599 | 0.155 | 14,115 | 0.212 | 16.092 | 0.276 | 17.109 | 0.516 | 22.292 | 0.415 | 26.210 | 0.572 | 33.564 | 0.475 | 86.932 | 1.904 | 75,453 | 2655.541 | 777.575 | 3756.181 | 515.535 | 3311.696 | 18284.590 |
| | لنخبث | 1 | Capital (Investment | 68 | 13.651 | 0.000 | 15.554 | 1.152 | 21.530 | 0.372 | 25.879 | 0.493 | 25.560 | 0.847 | 29.877 | 0.725 | 38.887 | 0.953 | 41.049 | 1.273 | 50.092 | 1.073 | 93.035 | 3.837 | 303.200 | 1975.357 | -214.048 | 2495.764 | | -484.780 | 3751.294 |
| l f | Rand of | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Reat of the World | 69 | 38.857 | 0.307 | 25.709 | 1.584 | 29.784 | 0.535 | 35.575 | 0.880 | 39.509 | 0.005 | 41.351 | 1.000 | 50.752 | 1.519 | 57.817 | 1.782 | 000.2000 | 1.485 | 117 117 | 5.305 | 44.304 | 3834.803 | 724.200 | 2899.147 | 200.430 | | 8575.997 |
| | _ | | Total Expedenditure | 70 | 275.491 | 15.559 | \$70.014 | 22.822 | 459.885 | 7.085 | 521.950 | 9.545 | \$77.772 | 12.765 | 615.094 | 15.917 | 757.574 | 15.549 | 846.261 | 24.510 | 1037.552 | 20.737 | 2003.697 | 77.169 | 865.804 | 6245.799 | 3509.600 | 18284.589 | 3751.295 | 8575.997 | |

39/Social Accounting Matrix for the Jordanian Economy –JOSAM-

Summary Conclusions and Recommendations

By Now, and as it has been depicted by the study and analysis presented in this assignment report, Jordan has its first comprehensive and detailed social accounting matrix (SAM) for 2006, which has been structured form actual Jordanian data. Such data have been derived from actual surveys, national inputoutput tables of 2006, and well-structured official data and related published documents and unpublished detailed data that we have gain an official excess to. As an economy-wide model, SAM provides a solid basis for moving away from segmental standalone planning or modelling approach to; integrated, economywide planning and modeling methodology that captures all segments and sectors of the national economy, within a one integrated comprehensive framework. The Executive Development Plan (EDP), Medium-Term Fiscal Framework (MTFF), poverty reduction strategy, measures and impact, and any likely going to be prepared future development vision for Jordan, all these and more can benefit from articulating methodological approach and analysis, using SAM-based models. SAM, therefore, can analyze modelling and provide quantitative responses and directions, and hence, determining, amongst others; the growth of leading sectors, to achieve the desired level of GDP growth, the identification of alternative development strategies to reshape the Jordanian economy and to move away from being mainly service economy, to an industrialized based economy. Besides, re-defining who would be benefited from economic growth through better income distribution approach and hence establishing an effective development and growth strategies that would, significantly, reduce poverty. However, all these and more strategies and development policy alternatives, can be contemplated and achieved using SAM based macroeconomic and sectoral models such as; computable general equilibrium (CGE) model, integrated macrofiscal management and forecasting model, among others.

At this conjuncture, it is imperative to highlight the following recommendations for future considerations by the planning authority, and other agencies. These, for example, are:

- The prepared final JOSAM has to be used for drawing a more realistic and empirically articulated development policy and vision through, designing an integrated macro – fiscal management and forecasting models, based on computable general equilibrium (CGE) concepts and principles. Hence, creating a well-balanced economic development and outlook.
- Furthermore, JOSAM in its existing structure provides the best opportunity to handle various analysis and impacts related to; likely adopted policies and

strategies for serious poverty reduction in Jordan. Besides, devising strategies for more fair income redistribution in the economy.

- Economic development strategic approaches may require to be dynamic, accordingly investment matrix; where investment by origin and destination sectors, need to be structured and be an integrated part of a national SAM rather than presented by row and column vectors.
- Also, trade section can be worked out and shown by the main trade partners. This being for imports from the main countries that supply Jordan with its needs, to complement domestic production, and by the main countries that absorbing Jordanian main exports.
- Moreover, development strategy and future economic growth, outlook and plans, need to have environment component and environmental related variables are, explicitly, included in the matrix.
- The constructed JOSAM presented in this report, is highly disaggregated and has been driven based on bottom-up adopted methodology. It could be easier, for different policy and analytical uses, to have a macro top-down based version, for the JOSAM, at MOPIC, in the near future.
- It is recommended that there is a need for the SAM to be frequently compiled and updated. By doing so, this would allow planners and decision-makers to have clearer and up to date picture of recent socio-economic conditions and trends of the economy. In doing so, this would facilitate the ability and the tools to compare, objectively, with the same conditions that prevailed in the past.
- Considering the possibility when updating JOSAM, say, for more recent year, i.e. 2010, a due consideration should be paid to consider the regional dimension for the new SAM. This may be done on Governorates basis, and/or on more aggregated regional basis.

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