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**REGIONAL AND GLOBAL PRIORITIES****ECONOMIC MODELLING FOR ENHANCED POLICYMAKING****Summary**

The Arab region is facing unprecedented challenges in the political, economic and social spheres. The governments of the region are pressed to reduce social gaps and to accelerate growth while struggling with financial constraints. Under such circumstances, addressing the longer term challenges of a developmental transformation requires different policymaking approaches. A macroeconomic reform is needed. However, the lack of economic modelling capacity in the region limits the potential for such reform.

This document highlights the efforts aiming at addressing those challenges. It also recommends a comprehensive approach consisting of building modelling skills, enhancing analysis and forecasting capacity, and developing statistical infrastructure. The economic modelling techniques presented in this document include the Computable General Equilibrium model, the global quantitative techniques and now-casting models.

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## Introduction

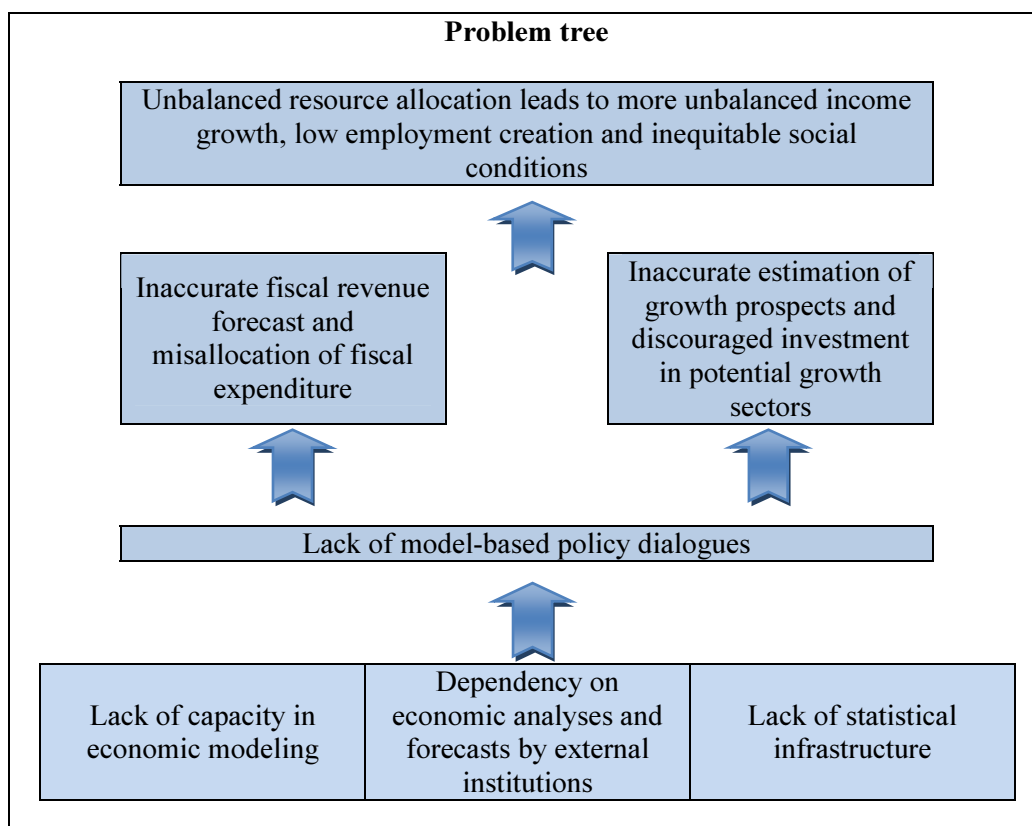
1. For over two years now, the Arab region has been facing unprecedented challenges in the political, economic and social spheres. Unemployment, and specifically youth unemployment, is the major challenge facing the region, with unemployment rates among the highest in the world. Job creation has thus become a top priority for the member countries of the Economic and Social Commission for Western Asia (ESCWA), and governments will be judged according to their ability to reduce unemployment. Governments are also faced with the challenges of reducing disparities and accelerating growth while struggling with fiscal constraints. Under the current circumstances, addressing the longer-term challenges of a developmental transformation requires policy shifts that will need to be normatively discussed within the new active political arena.

2. This document highlights the efforts aiming at addressing those challenges. It also recommends a comprehensive approach consisting of building modelling skills, enhancing analysis and forecasting capacity, and developing statistical infrastructure. The economic modelling techniques presented in this document include the Computable General Equilibrium model, the global quantitative techniques and now-casting models.

### I. PROBLEMS AND OBJECTIVES

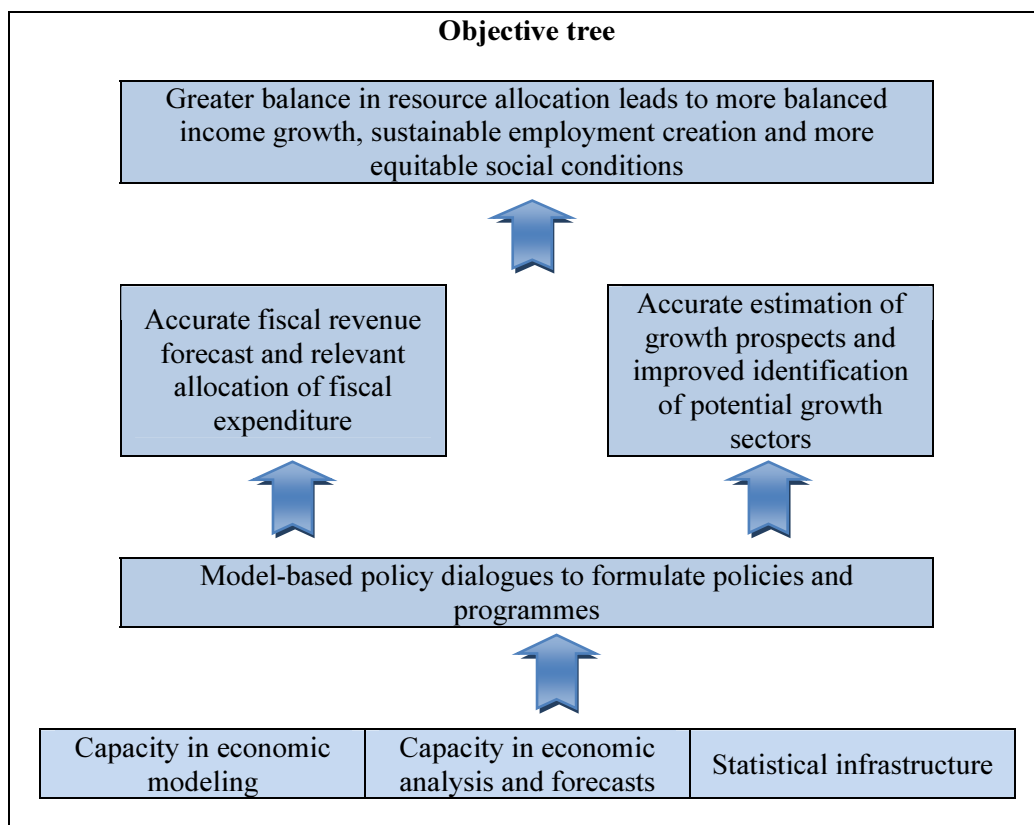
3. Consultations with member States and regional and international institutions have indicated that planning authorities in member States do not always have adequate tools to fulfil these requirements. Lack of capacity in economic modelling and statistics, as well as the dependency of countries on economic analyses and forecasts by external institutions have challenged informed policymaking and have negatively affected development achievements of the countries in the region (see problem tree below).

4. All these issues point out the urgent need for quantitative studies and evidence-based economic analyses in order to help policymakers design new policies and assess corresponding macroeconomic and social impacts before implementing such policies.



5. ESCWA, therefore, determined that focus needs to be put on economic modelling in order to strengthen the analytical capacity of member States in designing adequate policy responses to economic and social challenges.

6. The aim is to address these challenges by recommending a comprehensive approach that will help in: (a) building modeling skills; (b) reinforcing analysis and forecasting capacities; and (c) developing statistical infrastructure. This approach will enable planning institutions to provide policymakers with accurate fiscal revenue forecasts and relevant allocation of fiscal expenditure; and estimates of growth prospects and identified potential growth sectors. The development of these capacities will eventually lead to a more balanced resource allocation, followed by more inclusive growth, sustainable employment creation and more equitable social conditions (see objective tree below).



## II. PROPOSED ECONOMIC MODELLING TECHNIQUES

7. Within this framework, ESCWA will provide rigorous and evidence-based analysis building on state-of-the-art quantitative techniques; and help public administrations develop their own analytical capacities by assisting them in building their own tools and providing training on their usage. Consequently, public administrations will be able to (a) develop their own capacities to better profit from the analyses provided by ESCWA; (b) carry out their own analyses; and (c) better respond to requests from policymakers.

8. This initiative will include the following components:

### **Component 1. Computable General Equilibrium model**

9. This component consists of developing and implementing a Computable General Equilibrium (CGE) model and providing regional and country-specific training on its use.

10. CGE models have become a standard tool of empirical analysis and are widely used to analyse the aggregate welfare and distributional impacts of policies whose effects may be transmitted through multiple markets. Furthermore, they assess the economic impacts of different tax, subsidy, quota, and transfer instruments. They can be used in areas as diverse as fiscal reform and development planning, international trade and environmental regulations.

11. In addition, the first component will include training activities that will enable public administrations to use these models to conduct in-depth and consistent analyses for policymakers. The basic structure of the model to be used was initially developed by the United Nations Department of Economic and Social Affairs (DESA) and the World Bank and has been implemented in 35 countries all over the world. For this reason, a progressive knowledge transfer programme will be established between DESA and ESCWA during the first two years, supporting the Economic Development and Globalization Division of ESCWA in its role as implementing agency of the programme in the region. This programme will also benefit from the collaboration of the Statistics Division of ESCWA to provide member States with technical support in the area of statistics and to build a Social Accounting Matrix (SAM) where it is not yet available.<sup>1</sup>

12. ESCWA has already developed the necessary tools for economic modelling for the Syrian Arab Republic, Jordan and Lebanon in order to perform an analysis of the impact of the Syrian crisis on the economies of these three countries.

#### *Syrian Arab Republic*

13. ESCWA updated the input/output table available for the Syrian Arab Republic and developed a SAM in order to include it in the Global Trade Analysis Project (GTAP) database. It then developed a partial equilibrium model covering certain sectors and performed an analysis of the impact of the Syrian crisis on the country's economy.

#### *Jordan*

14. ESCWA developed the 2006 SAM for more than 30 economic sectors in Jordan and is currently undertaking a CGE analysis of the impact of the Syrian crisis on Jordan's economy. ESCWA will soon start updating the Jordanian SAM with more recent data in order to fine-tune the model and perform simulations which would enable a more accurate analysis of the impact of the Syrian crisis on Jordan.

#### *Lebanon*

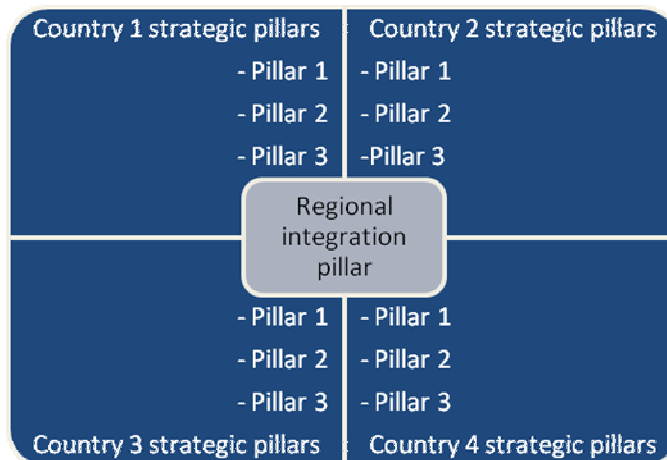
15. ESCWA will start developing the 2011 SAM for Lebanon based on the most recent input/output tables, which will consequently be used to build the CGE model for Lebanon. Furthermore, the model will not only be used to study the impact of the Syrian crisis on Lebanon's economy, but also to assess the impact of other such policy decisions as the impact of the increase in public salaries and wages on the economy.

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<sup>1</sup> An assessment on data and SAM availability is currently conducted in the region in order to define the needs of individual countries.

**Component 2. Global quantitative techniques**

**Introducing regional integration pillars in countries' strategic planning**



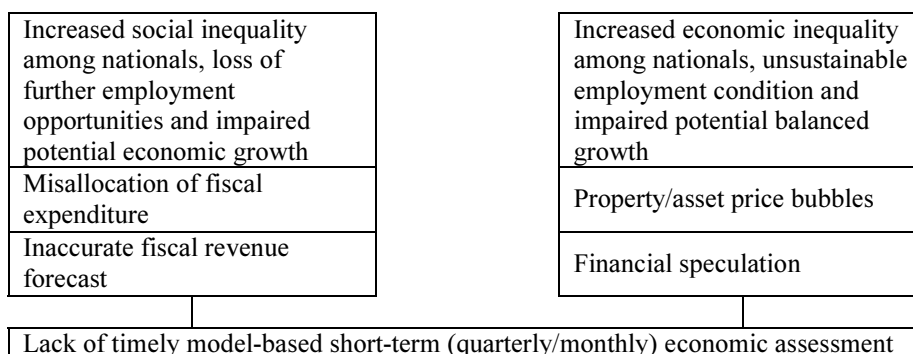
16. This component covers global quantitative techniques, especially global CGE models. Within the component, a number of policy-oriented studies will be produced and disseminated to all member States in order to provide them with quantitative assessments of various regional and global policies and to identify their impacts on the economy of each country. The ultimate objective will be to convince all member States to include the regional dimension in their strategic planning and to ensure the harmonization of the regional integration strategies between all countries. In this sense, the figure above illustrates the introduction of regional integration pillars in the strategic planning of each country.

17. The outputs of this component will also feed into the ongoing debate with such regional institutions as the League of Arab States, the Arab Economic and Social Council and the Arab Monetary Fund, among others.

**Component 3. Now-casting models**

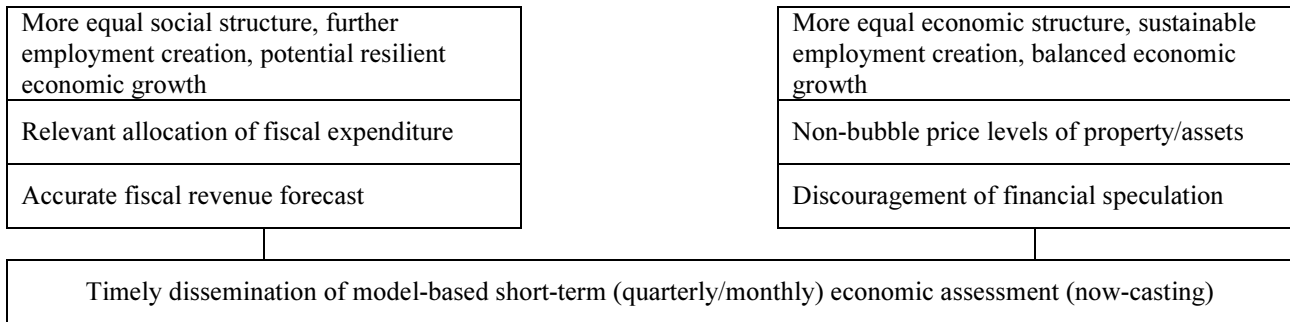
18. In spite of the improved pace of statistical development in the Arab region, official statistics, particularly of national accounts and other economic indicators, are usually released with a considerable time lag. This delay makes it difficult for stakeholders to correctly assess the current economic situation and make valid economic judgements in the absence of reliable qualitative evidence. This, in turn, leads to inaccurate fiscal revenue forecasts, which may result in the misallocation of the national budget; and financial speculations, with speculators making use of the uncertain economic situation to their own benefit (see problem tree below).

**PROBLEM TREE**



19. As a result of the above, ESCWA is constructing now-casting models to bridge this information gap for part of its monitoring activities of the economic situation of the region. The modelling exercise also aims at resolving the challenges caused by the information gap to remedy a wider set of socioeconomic issues (see objective tree below). ESCWA will advocate model-based short-term economic assessment by the stakeholders in the region to ensure transparent objective judgements on the present economic situation.

## OBJECTIVE TREE



20. In the last decade, States members of the Organisation for Economic Co-operation and Development (OECD) have increasingly directed their efforts towards the development of models to conduct early assessments of economic situations.<sup>2</sup> Now-casting is indispensable because key statistics on the present state of the economy are often available only with a significant delay. The basic principle of now-casting is the utilization of information which is published early and more frequently than the target variable of interest. Usually, the target variable is the gross domestic product (GDP), and the higher-frequency data utilized are monetary statistics, price indices, customs data, and construction permits, among others. Now-casting aims to produce early estimates in a technically consistent way through economic modelling. Technically, a variety of such mixed-frequency sampling models as Bridge Model and MIDAS has been utilized in recent years, mainly in OECD member States, but this practice is still to be developed for the Arab region.

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<sup>2</sup> The most recent review article in this area is Banbura, Marta and others (2013). *Now-casting and the Real-time Data Flow*. ECB Working Paper No. 1564 (July). Frankfurt: European Central Bank.