

TWINNING CONTRACT

Institutional Capacity Building for the Central Agency for Public Mobilisation and Statistics (CAPMAS) and Developing the Legal Framework for Statistics in Egypt

EG/07/AA/F106



MISSION REPORT

on

**Assessment of data sources and methodology in compiling
the Egyptian Consumer Price Index**

Component no 5.4.1

Mission carried out by
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Cairo, 11– 15 January 2009

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List of Abbreviations

CAPMAS	Central Agency for Public Mobilisation and Statistics
CAA	Central Agency for Accounting
CBE	Central Bank of Egypt
CPI	Consumer Price Index
EU	European Union
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
HICP-CT	Harmonised Index of Consumer Prices - Constant tax
IMF	International Monetary Fund
IT	Information Technology
MOED	Ministry of Economic Development
MEDSTAT	EU Statistical Co-operation with Mediterranean Countries
MOA	Ministry of Agriculture
MOF	Ministry of Finance
NA	National Accounts
PPI	Producer Price Index
PPP	Purchasing Power Parities
SNA 93	System of National Accounts 1993
TOR	Terms of Reference

Executive Summary

This mission report was prepared within the Egyptian-Danish Twinning Project "Institutional capacity building for the Central Agency for Public Mobilisation and Statistics". It was the first mission to be devoted to Assessment of the State of the Egyptian Consumer Price Index within Component 5.4, "Development of certain statistical areas" of the project. The mission was aimed at defining a strategic plan to form the basis for further implementation of the project in this statistical area. During this first action a thorough assessment of the current CPI methodology was carried out in order to better identify the line of interventions for following actions, with particular attention to:

- **Discount and sale prices**
- **Weighting of items**
- **Collection of data on the prices of services and industrial goods**
- **The whole price data collection process; from price collection to data checks, hand held computers in price collection, new data logistics and data validation by computer**
- **Methods of quality adjustment**
- **Base period of CPI in the monthly publication**

During the visit the EU experts obtained a good overview of the calculation of the CPI at CAPMAS, as well as of the use and need of the CPI. During the visit CAPMAS price index officials and participants from the Egyptian Central Bank, Ministry of Finance, Ministry of Economic Development and Central Agency for Accounting were also given an overview of the calculation of the CPI in Finland. The Terms of Reference of the participants in the mission, the agenda of the mission and a brief summary of the methods and solutions adopted in the Egyptian CPI are in the Annexes to this report.

The next action will be an assistance visit to Egypt from Denmark in February. The main topic will be the general methodology, concept and scope, classifications, data sources of weights, and outlet and commodity sampling of the CPI.

General comments

The mission was aimed at defining a strategic plan to form the basis for further implementation of the project in this statistical area. This activity will contribute to this objective and especially to the benchmarks set out in the contract: “By the 18th month, a new methodology to collect and process consumer price data and to calculate and publish CPI in place”.

The Expected Results of the mission were:

- An assessment of the current data sources and methodology used in the compiling of the Egyptian CPI.
- An evaluation of the work plan set out in the contract and suggestions for change in view of the findings and conclusions.

In July 2005 the International Monetary Fund (IMF) reviewed CAPMAS for a Report on the Observance of Standards and Codes (ROSC). IMF report of 11 July 2005 refers. The methodology and quality of the Egyptian CPI were also reviewed at that time. Since the IMF report CAPMAS has made considerable improvements to its CPI methodology and calculation in accordance with the guidelines of the IMF.

The consultants would like to express their thanks to all officials and individuals met for the kind support and valuable information they received during their stay in Egypt, which highly facilitated the work of the consultants.

2. Assessment and results

2.1 *Egyptian CPI*

The current Egyptian CPI is described in the following.

2.1.1 Scope, concept and coverage

The concept, scope and coverage of the Egyptian CPI comply with international recommendations. The index is primarily used to measure inflation, but also as a deflator and a compensation index. In terms of geography and population the index covers the whole of Egypt. The price data are collected from the areas of 28 regional offices, both rural and urban areas, and all population groups are included.

2.1.2 Classification, weights and item and outlet samples

The classification applied in the index is COICOP, and the weights and the commodity basket of the CPI are reviewed at five year intervals, which will be reduced to two years in future. The commodity weights are obtained from the Household Budget Survey, the current weights being from the 2004/2005 survey. The item and outlet samples are constructed at CAPMAS in collaboration with the regional offices. Both samples are judicious. The index has weights for 171 commodities. Data are collected on the prices of 826 commodities. The total number of outlets from which data are collected is 7,149. The price collection extends to all types of outlets.

2.1.3 Price collection and data reporting

Prices are collected from 7,149 different kinds of outlets in 28 regions, both from rural and urban areas. Data are collected on the prices of 826 goods and services. Weights are applied to 171 items. The prices are mostly collected monthly with six different paper questionnaires between the 14th and 16th of the month. Data on the prices of services, industrial goods and rents are collected quarterly in January, April, July and October. Data on items subject to price control and subsidies are collected when necessary. Interviewers receive continuous training and guidance with the aim of promoting

uniformity and good quality in the price collection. From the regional offices the price data are sent to Cairo in electronic form between the 18th and 20th of the collection month and the paper questionnaires are sent by post no later than on the 23rd of the collection month.

2.1.4 Data processing and CPI calculation at CAPMAS

The price data are checked both at the regional offices and at CAPMAS. The index is calculated with the Jevons chain index formula using geometric mean prices for the items without weights. The index weights from the 2004/2005 HBS are first updated to the level of prices in January 2007. CAPMA has a sufficient number of computers available and the software (Oracle) are up-to-date. In the regions the collection and processing of the price data are mainly performed by hand using the paper questionnaires (transfer of data electronically). Basic index for the 171-category items use the Jevons index formula; an unweighted geometric mean. The formula for the calculation of the CPI is short term basis, thus each current month's price is compared to the previous month's price. The formula is Laspeyres index formula.

2.1.5 Housing, telecommunication, financial services, insurances, quality changes and seasonal items

Development in housing prices is measured with a rent model, that is, development of prices of owner-occupied dwellings is monitored against development in the rents of rental dwellings of corresponding quality. Data on rents are inquired quarterly in connection with the Labour Force Survey. In accordance with international recommendations seasonal items are treated by imputing prices for them according to the development in the prices of corresponding items off-season. No actual evaluation of quality changes is made. There are no problems with operators in the collection of price data on telecommunication services. The significance of financial services is so minor that they are excluded from the CPI. Gross weights are used and gross prices monitored for insurance. The significance of insurance is low.

2.1.6 Outputs and use of the CPI

The CPI is published on the 10th day of each month as a press release according to a release calendar. The monthly release includes information about the used main methodology. The CPI is used widely, with the Central Bank, Ministry of Finance, Ministry of Economic Development and Central Agency for Accounting as its most important users.

CAPMAS made a presentation of the compilation of the CPI in Egypt on 11 January. The experts and CAPMAS officials then went through the whole structure of the CPI from its scope to its usage with a special questionnaire (Annex 4).

The compilation of the Finnish CPI was introduced by the Finnish experts on 14 January. During the last mission day the EU experts and CAPMAS officials discussed in mutual understanding the points raised during the mission and agreed the action plan for future work on the project (Annex 3).

3. Conclusions and recommendations

Proposals concerning an assessment of the current Egyptian CPI.

Proposal 1:

CAPMAS should include discount and sale prices in the CPI

Responsible institute: CAPMAS

Deadline: During the project, before September 2010

During Action: 5.4.3

Proposal 2:

CAPMAS should apply weights to more than 171 items (between 171 and 826)

Responsible institute: CAPMAS

Deadline: During the project, before September 2010

During Action: 5.4.3

Proposal 3:

CAPMAS should collect data on the prices of services and industrial goods monthly, so one-third of the price collectors should collect prices in January and one-third in February and one-third in March.

Responsible institute: CAPMAS

Deadline: During the project, before September 2010

During the Action: 5.4.3

Proposal 4:

CAPMAS should collect the price data with hand held computers. The current six paper questionnaires will be replaced with one electronic questionnaire. All the price data should be sent directly after their collection to Cairo via e-mail or Internet, and direct to the CPI database. All the checking should take place at CAPMAS, partly with automatic, computerised means. The hand held computers could then also be used for other surveys of CAPMAS.

Responsible institute: CAPMAS

Deadline: End of the year 2010

During Actions: 5.4.3, 5.4.5 and 5.4.6

Proposal 5:

CAPMAS should study different quality adjustment methods and start to use "best" international practices in the CPI calculation.

Responsible institute: CAPMAS

Deadline: During the project, before September 2010

During Action: 5.4.2

Proposal 6:

CAPMAS should use as the base period of the CPI the year 2005 (2005=100) instead of January 2007 (January 2007=100).

Responsible institute: CAPMAS

Deadline: During the project, before September 2010

During Action: 5.4.4

Recommendation for the structure of future missions:

The next mission, 5.4.2, will take place in the third quarter of the project, i.e. 19-23 April 2009 (4 working days, Monday is day off). The main topics of this mission will be quality adjustment, missing observations, seasonal products, treatment of rents and special cases in the CPI. During this mission Ms Christina Telasuo and Mr Juhani Pekkarinen could make together with CAPMAS officials a tentative plan on how CAPMAS could change the CPI production system from the present partly manual one to one using hand held computers.

Mission 5.4.3 will take place at the beginning of the 4th quarter. The main topics of this mission will be general methodology of the CPI, concept, scope and coverage, classification, data sources of weights, outlet and commodity sampling, price collection (real prices), questionnaires, updating of the prices, checking of the data (in regions and at CAPMAS). An action plan for future work within the CPI, Annex 3.

Annex 1. Terms of reference

EG/07/AA/F106
Statistics Denmark, International Consulting

8. juli 2009
POT/-

Terms of Reference

*for a short-term mission to the Central Agency for Mobilisation and Statistics
on*

Activity 5.4.1

Assessment of data sources and methodology in compiling the Egyptian CPI

Background

CAPMAS and Statistics Denmark with partners have established fruitful co-operation within the framework of Twinning. This Twinning project is EG/07/AA/F106.

This activity is part of component 5 *Development of certain statistics*, in the subcomponent dealing with the Consumer Price Index (CPI). The objective for this component is development of statistics in the Consumer Price Index (CPI) in Egypt.

This activity will contribute to this objective and especially to the benchmarks set out in the contract: *By the 18th month, a new methodology to collect and process consumer price data and to calculate and publish CPI in place.*

Purpose of the mission

The mission is an assessment mission where the MS experts will conduct a thorough review of the data sources and existing methodology in the area of the CPI

The MS experts will also outline an action plan for the remaining activities within the CPI.

Expected Results

- An assessment of data sources and methodology in compiling the Egyptian CPI
- An evaluation of the work plan set out in the contract and suggestions for changes in view of the findings and conclusions

Activities

A tentative schedule for the mission is:

Sunday, 11 January

Introduction to CAPMAS and overall discussion on the activity – RTA and BC project management. Meeting with component leader and the relevant staff. Determining the agenda for the mission. General Introduction to the Consumer Price Index (CPI) in Egypt, previous work within the CPI, e.g. IMF and others.

Monday, 12 January

Review of data sources, data validation and editing in the Egyptian CPI

Tuesday, 13 January

Review of methodology

Wednesday, 14 January

Work on action plan for remaining activities within the CPI. Presentation of the Finnish CPI calculation system.

Thursday, 15 January

Final discussions and clarifications with CAPMAS. Presentation of preliminary results and findings with BC project management

Tasks to be done by CAPMAS to facilitate the mission

The beneficiary will arrange meetings with the relevant staff at CAPMAS.

Consultant and counterpart

The mission will be carried out jointly by:

Mr Ilkka Lehtinen, Statistics Finland, and

Ms Christina Telasuo, Statistics Finland

The beneficiary's counterpart was Ms Awatef Hussein.

Timing

The mission will be carried out in Cairo during 11-15 January 2009.

Report

A final report from the mission should be made available no later than two weeks after the termination of the mission.

Annex 2. Persons met

External Authorities and Agencies

Name	Title	
Ms. Fatma Mohamed	Senior Researcher	Ministry of Economic Development
Ms. Lamiaa Mohey	Senior Specialist	Ministry of Economic Development
Mr. Adel Mohamed	Deputy of General Director	Egyptian Central Bank
Mr. Mahmoud Mohamed	Head of Division	Egyptian Central Bank
Ms. Yomna Akram	Economic Researcher	Ministry of Finance
Mr. Mohamed Mahmoud	Deputy of General Director	Egyptian Central Bank
Ms. Amal El Esawi	Senior Specialist	Ministry of Economic Development

From CAPMAS

Name	Title
Mr. Emad Naseef	Quality Control
Mr. Magdy Abu Deif	Head of Food Prices department
Ms. Laila Abd ElMaksoud	Prices of Food Substances and Products
Ms. Magda Abbas	CPI
Ms. Doaa Mabrouk	CPI
Mrs. Sabah Hussein	Prices of Industrial Substances and Products
Mr. Magdy Fakhry	Head of Industrial prices Department
Ms. Fayda Hussein	First Specialist- Research Division
Ms. Mona Abu El Fotouh	Head of Planning and fellow-up Department
Mr. Mohamed Farid	Central Department for Public Statistics
Mr. Ahmed Mokhtar	Head of CPI
Mr. Hesham Shaker	Price Index Division
Ms. Magda Mahmoud	General Director of Financial Statistics
Ms. Manal Mohsen	General Director of Indicators Software
Ms. Salwa El-Sayed	Director of Twinning Technical Secretariat

Annex 3. Presentation of CPI calculation in Finland

Some Draft Features concerning the compilation of the Finnish CPI

Organisation:	Statistics Finland, Prices and Wages Statistics, Consumer and Housing Prices	
Staff:	8 people and one IT person	
Classification:	COICOP	
Weights:	National Accounts, private consumption 2004 Household Budget Survey and other sources	
Revision of weights and commodity basket:	Every five years	
Regions:	6 major regions (NUTS2)	
Sample Outlets:	PPS from the Business Register for grocery stores and fuel stations, price collectors choose other outlets	
Sample Items:	Sales value, expert views, PPS, cluster sampling	
Items:	497	
Outlets:	2,700	
Prices:	50,000 by price items + 1,000 by centralised collection Total 51,000	
Price collectors:	Total 44, of whom 23 local and 21 regional collectors	
Price Collection:	10th -20th of each month Electronic price collection 174 items in local collection, 21% of weights 234 items in regional collection, 29% of weights 89 items in centralised collection, 50% of weights	
Validation:	Large index changes, all replacements	
Publication:	14th day of following month Internet, paper publication, PDF publication	
Output:	CPI,	2005=100
	HICP,	2005=100
	HICP-CT,	2005=100
	Price Statistics,	Montly, about 160 goods and services
Use:	Measure of inflation, Monetary Policy, Compensation, Deflation	

Annex 4. Action plan for future work within the CPI

1. Work Plan for 2009-2010

Activ. No.	Title	MS Country	Days	1	2	3	4	5	6	7	8
5.4.1	Assessment of data sources and methodology in compiling the Egyptian CPI	2 * Finland	10		X						
5.4.2	Data processing , Quality changes, missing observations, seasonal products, treatment of rents, special cases (Old 5.4.4)	2 * Finland	8			X					
5.4.3	General methodology of CPI , concept and scope, classification, data sources of weights, outlet and commodity sampling, price collection, questionnaire, update of prices, checking of data (Old 5.4.2 and 5.4.3)	2 * Denmark	10				X				
5.4.4	Calculation of CPI , index formula, publication of the index, press release, Internet and use of the index (GDP, deflator, Central Bank, Ministry of Finance..). Old 5.4.5 and 5.4.6	Latvia, Mr Alksnis	5					X			
5.4.5	Work done during the project, work plan for future development of the CPI and PPI, Final Mission (Old 5.4.7 and 5.3.7)	Finland, Mr Lehtinen	5						X		
5.4.6	Assessment of CPI and PPI work made during the project. (New)	Mr Ilkka	3							X	(X)
	Total, Days		41		10	10	10	5	5	3	

USE OF TIME IN THE CPI PROJECT (MS persons by country and working days):

Index	Finland	Denmark	Latvia	Total
CPI	Mr Ilkka Lehtinen, 2*5+3=13 Ms Christina Telasuo, 2*5=9 Mr Juhani Pekkarinen, 1*4= 4	Mr Martin Larsen and Ms Kirsten Balling, 2*5=10	Mr Oskars Alksnis 1 * 5 = 5	
Total	26	10	5	41

Annex 5. CPI price collection in Egypt

1. NAME OF THE INDEX	- Consumer Price Index
2. LEAGAL BASE	- Law No 35 - 1960, on Statistics and Censuses - Decree No. 2915/1964, Price Statistics
3. PLACE OF PRODUCTION	- CAPMAS, Cairo
4. CONCEPTS AND SCOPE - Monetary policy - Compensation - deflation, $Q \cdot P = V$	- To measure of the average change over time in the prices of consumption items - goods and services - that people buy for day to day living. = Compensation, deflation and monetary policy
5. COVERAGE - Regional - Households - Price (Taxes, subsidies, discounts..)	- Whole country, 28 regional offices; 11 urban/17 rural areas - All household types (HBS including 48 000 families) Including taxes and subsidies (Rice,sugar, makaroni, tee, electricity, education, health care. Excluding discounts or sales. Electricity, gas, water, car and health insurances are under the state price control
6. CLASSIFICATION	- COICOP
7. EXPENDITURE WEIGHTS - Sources of weights - Change of weights, how often - Regional weights - Value of consumption/people- weights	Household Budget Survey 2004-2005 + updating of prices to 1/2007 - Before every 5 year,s in future every two years - 8 areas (see price collection sheet) - Value weights of private consumption
8. REGIONS, how many	- 8 areas plus rural and urban areas plus the whole country. Weights and publication are at this level.
9. COMMODITIES / ITEMS, How many	- 171 elementary aggregate index levels = basic weights are at this level (the total number of goods and services is 826)
10. OUTLETS, How many	- Urban 3324 and rural 3825 = 7 149 outlets together
11. NUMBER OF PRICES, How many	- See price collection sheet,195 762, in theory
12. PRICE CONTROL / ITEMS	- Electricity, water, gas, car/health insurances are under price control
13. SAMPLE - Commodities/Items - Outlets	- From 2004/2005 survey, most sold goods and services, large selection and popular. - CAPMAS tells to the price collectors the collection outlets.
14. STAFF in price collection and at CAPMAS	- 407 price collectors; 28 in price division; 7 for food and service prices 7 for industrial prices, 8 for production of CPI and 6 for PPI
15. PRICE COLLECTION - Frequency; monthly - quarterly -year - Timing - Questionnaire, what kind of - field procedures, orders, item descriptions, training of price collectors, - Outlets, what kind of	Mostly monthly; services, industrial goods , health care and rents quarterly, education once a year. Goods under price control when necessary -14-16. of month - At Regional level six different paper questionnaires. - Price collection orders, descriptions of items, continuous training of price collectors, similar practicies for all collectors and regions - Supermarkets, neighbour shops, open shops. All these are private. In the case of subsidiced goods and services both (free and subsidiced) have their own weights and prices.
16. PRICE REPORTING - postal - paper - electronic, e-mail - Data processing at CAPMAS	- All questionnaires are in paper form, 3 prices plus average price - Question. sent to Cairo on 18-20th of each month by by e-mail (elec.) - Questionnaires sent to Cairo by 23rd day of each month by post - From 24th day of each month to 9th day of next month CAPMAS checks the prices, calculates the index and prepares its publication In future the collection could be made maybe with hand held computers
17. PRICE DATA CHECKS - at local offices - In Cairo - Missin prices and quality changes - Quality changes, handling of old and new products - Imputation	- Average price calculations (manually) and price quality control - Average price calculations (by computer) and price quality control - There is no systematic computerised price control system - Price can be miss for two months, and then change. It is possible to get the price from some other outlet (same price) - If the size of package has changed, comments to the colum of notes - for sesonal missing items

18. CALCULATION OF CPI - Base/Chain index - Base period now - Calcul. for elementary aggregates	- Jevons chain index formula in basic index level (Geometric mean). - Index calculation, monthly chain index with Laspeyres formula - January 2007 changed to January 2005. - Geometric mean before weighting level (from 826 to 171) (for example in case of Rice; unpacked and packed rice) - In calculation average current and previous months prices.
19. COMPUTER EQUIPMENT AND SOFTWARE	- In CAPMAS price division, 15 computers (CPI+PPI) - in 28 regional offices have each 1-2 computers. - Software; Oracle + database
20. HOUSING - Rents - Owner occupied housing	- Actually paid rents and imputed rents, from labour force survey quarterly - Imputed rents
21. TELECOMMUNICATION SERVICES - mobile phones, calls, internet	- No big problems with operators
22. FINANCIAL SERVICES - Currency exchange, loan facilities,...	- Excluded from the CPI, minor significance to private consumption
23. INSURANCE SERVICES - Car insurance - Health insurance	- Gross weights and gross prices. No big problems. - Health care insurance, compulsory, very small, once a year
24. SEASONAL ITEMS - Treatment of prices out of season	- Vegetables and fruit CAPMAS in future use imputation system out of season (with price changes of other fruit)
25. PRODUCTION AND PUBLISHING - publication - press release + calendar - Internet - Handbook for Users	- 10th day of each month - CAPMAS have a Publication calendar - CPI figures can be found on CAPMAS internet pages Monthly public. contains methodological description of Egyptian CPI
26. USE OF CPI - Central bank, Ministry of Finance,.. - WB, IMF, UN,..... - Compensation (pensions,....) - Measuring of inflation	- The Central Bank is the most important user, also Ministry of Finance, Central Agency for Accounting and Ministry of Economic Development are important user of CPI

LISTS OF GOODS AND SERVICES

- Whole list of 43 goods and services
- Whole list of 87 goods and services
- Whole list of 171 goods and services
- Whole list of 826 goods and services, before next mission 1. March

Weights	Egypt - Sep. 2008	Finland 2005
	o/oo	o/oo
Whole CPI	1000,0	1000,0
1. Food and non-alcoholic beverages	479,3	133,4
2. Alcoholic beverages and tobacco	26,8	51,6
3. Clothing and footwear	78,1	50,0
4. Housing, water, electricity, gas,...	146,3	213,4
5. Furnishing, hh equipment,...	39,8	55,4
6. Health	32,9	47,8
7. Transport	41,7	146,2
8. Communication	27,0	34,8
9. Recreation and culture	25,4	120,4
10. Education	33,6	5
11. Restaurants and hotels	31,7	69,1
12. Miscellaneous goods and services	37,5	72,9

- ILO's CPI manual
- EU / HICP-manual + regulations
- **Finnish CPI manual**
- IMF's ROSC 11. July 2005
- IMF's PPI manual
- STS-regulation

IMF.org/external/np/sta/tegppi/dman.htm

IMF.org/external/np/sta/tegppi/dman.htm

CAPMAS produces CPI for eight geographic areas

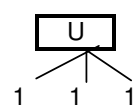
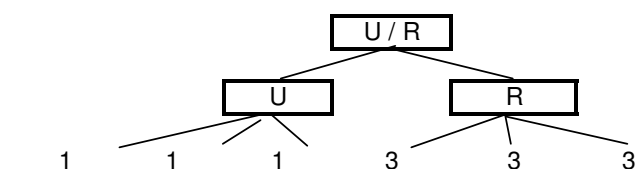
1	2	3	4	5	6	7	8
Cairo	Alexandria	Urban Lower Egypt	Urban Upper Egypt	Canal cities	Frontier governo- rates	Rural lower Egypt	Rural upper Egypt

|The whole country, 28 regional offices; 11 urban and 17 rural areas

Rural, 17 (regions are really not in this order -rural/urban)

Urban, 11

1	2	3	.	.	17	18	28
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$$\begin{aligned}
 (17 * 12 (3+3+3+1+1+1) + 11 * 3) * 826 &= \\
 204 + 33 = 237 * 826 &= 195\,762
 \end{aligned}$$

826 * 237 = 195 762 single prices in theory

237 prices from each goods and services, in principal
826 goods and services
171 main groups, weights are on this level