

Malawi: Technical Assistance Report on the Price Statistics Mission

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MALAWI

REPORT ON THE PRICE STATISTICS MISSION

September 16–27, 2013

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October 25, 2013

Contents	Page
Abbreviations	3
Executive Summary.....	4
I. Overview	6
II. Import and Export Price Indexes	7
A. Statistics Prerequisites	7
B. Accuracy and Reliability	8
C. Serviceability	13
III. Producer Price Indexes	14
IV. Consumer Price Index	15
 Appendices	
I. MXPI Project Tasks and Timetable	16
II. Funding Proposal for Import and Export Prices Surveys	17
III. Prices Training Program.....	19
IV. Long-Term System of Price Indexes.....	21

ABBREVIATIONS

AFR	African Department, IMF
c.i.f.	Cost, including insurance and freight
COICOP	Classification of Individual Consumption by Purpose
CPC	Central Product Classification
CPI	Consumer Price Index
EA	Elementary Aggregate
East AFRITAC	East Africa Technical Assistance Center of the IMF
f.o.b.	Free on Board
HS	Harmonized System of Tariffs and Trade
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
K	Malawi Kwacha
MNSO	Malawi National Statistics Office
MPI	Import Price Index
MXPI	Import and Export Price Indexes
PPI	Producer Price Index
TA	Technical Assistance
TOT	Terms of Trade
XPI	Export Price Index

EXECUTIVE SUMMARY

- In response to a request from the Malawi authorities and in consultation with the African Department (AFR), I undertook a technical assistance (TA) mission to Zomba during the period September 16–27, 2013 to assist with improving prices statistics, including the full conversion to direct pricing for the import and export price indexes (MXPI) and reviewing the new producer price index (PPI). This activity (14STJ6300) was funded by the East Africa Technical Assistance Center (East AFRITAC)¹ and undertaken within the context of the following project: Price Statistics STA_MWI_2008_05.
- Important aspects for the mission to address included the following: (i) review the work undertaken to date on developing experimental unit value based MXPI; (ii) prepare detailed plans for the development of quarterly import and export price surveys; (iii) develop the methodology for the replacement of the unit values with survey-based prices in the index compilation systems; (iv) review the new PPI and consider any possible future enhancements; (v) provide training to staff on data collection and index compilation; and (vi) document the methodology and computational procedures developed during the mission.
- In order to make as much progress as possible in relation to all the phases of the index construction during the period of the mission, the focus was placed on the development of an import price index (MPI). The documentation relates to an MPI but the Malawi National Statistics Office (MNSO) will be well positioned to apply the same techniques, principles and procedures to develop an export price index (XPI). The development of the XPI will be more straightforward; experience has shown that the development and maintenance of an MPI is much more complex.
- The MNSO proceeded to follow the work program developed during the previous mission to initially compile experimental, unit value-based indexes then progressively replace the unit value price indicators with direct survey-based prices.
- However, MNSO could not proceed to compile the MPI because of problems with the credibility of the unit values. This follow-up mission undertook an analysis of the sample of import unit values by country selected for the MPI and found major problems with most of the basic data, particularly in relation to the reported quantities and units of quantity. Therefore, it is not feasible to proceed to compile the indexes until quarterly transaction prices are available from import and export price surveys.
- ***It is essential that resources be provided to fund a program of import and export price survey initialization interviews and the subsequent ongoing quarterly price collections.***

¹ East AFRITAC is part of a network of IMF Regional Technical Assistance Centers and is supported by several donors. The external donors include AfDB, Australia, Canada, European Investment Bank, European Union, Germany, IMF, Switzerland, The Netherlands and United Kingdom (DFID). TA is provided to Burundi, Eritrea, Ethiopia, Kenya, Malawi, Rwanda and Tanzania.

- The mission focused on planning for the development of the surveys and the subsequent compilation of MPI and XPI with price indicators based on transaction prices from the price surveys.
- A sample of importing establishments was selected for the import price survey using cut-off sampling techniques. MNSO will proceed to select a sample of exporters for the export price survey.
- Training was provided on index concepts, compilation methodology and price survey design and implementation. Emphasis was placed on training on the conduct of survey initialization interviews with the samples of importers and exporters, and the subsequent conduct of the quarterly price collections.
- Detailed documentation has been provided on index methodology, compilation procedures and survey design, and the conduct of the initialization interviews with importers and exporters.
- A work program and timetable for the MXPI development are provided in Appendix I. Key milestones are: (i) Derive XPI structure, composition and weighting pattern (early October 2013); (ii) Select the sample of exporters (early October 2013); (iii) Conduct MPI and XPI initialization interviews (end December 2013—subject to funding); (iv) Customize the PPI processing system for MPI and XPI (end December 2013); and (v) undertake ongoing quarterly price collection, editing and MXPI calculation.
- The new PPI was reviewed and a broad communication and dissemination strategy developed, including the publication content.
- In relation to the consumer price index (CPI), the issue of linking the new, rebased series with the old series backwards at a component level was also addressed.

I. OVERVIEW

1. In response to a request from the Malawi authorities and in consultation with the IMF's African Department (AFR), I undertook a technical assistance (TA) mission to Zomba during the period September 16–27, 2013 to assist with improving prices statistics, including the full conversion to direct pricing for the import and export price indexes (MXPI) and reviewing the new producer price index (PPI). This activity (14STJ6300) was undertaken within the context of the following project: Price Statistics STA_MWI_2008_05.
2. A previous TA mission to Malawi was undertaken during November 2012 to assist with developing MXPI. The structure, composition, and weighting pattern for the MPI were derived. The initial indexes were to be experimental with the price indicators based on unit values from Customs data. It was planned to then progressively replace the unit values with survey-based prices on a staged, prioritized basis. This process was to be repeated for the XPI.
3. However, the Malawi National Statistics Office (MNSO) could not complete the compilation of the MPI because of problems with the credibility of the unit values. This follow-up mission reviewed the work done to date on developing the experimental MXPI.
4. A detailed analysis undertaken during the current mission concluded that over 80 percent of the country unit values selected as the price indicators for the MPI did not provide credible indicators of pure price change over time. The compilation of the indexes could therefore not be undertaken until import and export price surveys had been initiated.
5. The focus of the mission was therefore on planning for the development of quarterly import and export price surveys and the subsequent compilation of MPI and XPI with price indicators based on transaction prices from the price surveys.
6. Plans were developed for the conduct of an intensive program of field interviews to initialize the quarterly price collections. A forward work program is presented in Appendix I.
7. Generic questionnaires were designed for a quarterly Survey of Import Prices and Survey of Export Prices.
8. The questionnaires were designed to be customized for each of the import and export establishments selected for the surveys through the incorporation of specific product specifications, units, country of origin or destination and the currency of the transaction that were to be identified during the initialization interviews with each establishment.
9. A sample of importing establishments was selected for the import price survey using cut-off sampling techniques. MNSO will proceed to select a sample of exporters for the export price survey.
10. Training was provided on index concepts, compilation methodology and price survey design and implementation. Emphasis was placed on training on price survey interviewing to

support the conduct of an intensive program of initialization interviews with the samples of importers and exporters, and the subsequent conduct of the quarterly price collections.

11. To assist the authorities and counterparts, this report contains an Executive Summary on the main findings and recommendations. Then, an Overview is provided in Section I.

12. Section II of the report relates to the MXPI with Part A relating to the Statistics Prerequisites, Part B covering Accuracy and Reliability and Part C discussing Serviceability. Project implementation plans for the MXPI are provided in Appendix I.

13. Section III covers the new PPI is reviewed and a communication and dissemination strategy developed.

14. The issue of linking the new and old consumer price index (CPI) series at a component level is addressed in Section IV.

II. IMPORT AND EXPORT PRICE INDEXES

A. Statistics Prerequisites

15. The previous mission planned for the initial MXPI to be experimental measures using quarterly, country-specific Customs-based unit values as the price indicators. The intention was to replace the unit values with survey-based specification prices in the longer term. However, subsequent progress on the compilation of the proposed experimental measures came to a halt because of major data problems.

16. During the current mission, a detailed analysis was undertaken of the 2010 and 2011 time series of quarterly, country-specific import unit values selected for the experimental MPI. It was assessed that less than 20 percent of the series provided credible indicators of pure price change over time (see Source Data, below). Accordingly, a change in strategy was required before index compilation could proceed.

17. As the unit values are not suitable as price indicators, it will be necessary to initiate price surveys before any index compilation can be undertaken. Accordingly, it is essential that resources be provided to fund a program of import and export price survey initialization interviews and the subsequent ongoing quarterly price collections.

18. A funding proposal has been prepared (see Appendix II below). An intensive program of field interviews needs to be undertaken in order to obtain the necessary prices for all of the selected 8-digit Harmonized System of Tariffs and Trade (HS) items before index compilation can be undertaken. The interview program will need to be undertaken within a relatively short time frame so that all the price series can commence in the same quarter and support a common index time reference period because it is not feasible to obtain retrospective quarterly prices too long after the event.

19. In order to make as much progress as possible in relation to all the phases of index construction during the period of the mission, the focus was placed on the development of an MPI; as such, the documentation relates to imports. The MNSO will be well positioned to apply the same techniques, principles, and procedures to develop an XPI. Experience has shown that the development and maintenance of an MPI is much more complex than for an XPI. For example, there is a much larger range of commodities imported than exported, and imports tend to be more heterogeneous.

B. Accuracy and Reliability

Statistical Techniques

Conceptual basis

20. During the previous mission, decisions were taken on the concepts and definitions to be used consistent with the *System of National Accounts 2008 (2008 SNA)* and the international *Export and Import Price Index Manual*. These decisions were ratified.

Reference base period

21. On the assumption that the initial indexes would utilize Customs unit values and that back series were readily available, it was decided during the previous mission that 2010 should be the time reference period for the indexes. However, with the need to wait until survey prices have been collected before index compilation can proceed, this decision had to be reviewed.

22. Experience has shown that there are problems in obtaining retrospective transaction prices from establishments because of the cost and inconvenience in accessing earlier records; also, the reported data can be unreliable. Accordingly, a more recent period than 2010 will need to be selected as the reference period.

23. Assuming the initialization interviews can be completed before the end of 2013, then it will be reasonable to request prices for the March, June, September, and December quarters of 2013 and make 2013 the time reference period.

24. If the interview program is delayed, then a later time reference period will need to be selected and the index compilation will have to be deferred.

25. In the longer term, the MXPI should be re-referenced to the same base year as the CPI and PPI.

Aggregation formula and compilation methodology

26. As decided during the previous mission, the elementary aggregate (EA) indexes will be at the 8-digit level of the HS. As such, unweighted price relatives will be calculated using the Jevons geometric mean aggregation formula. Then, the EA indexes will be aggregated to

successive levels in the HS hierarchy (4-digit, 2-digit and total) with fixed weights using the Laspeyres formula.

27. Trade staff were given a presentation on the PPI processing system. It was re-affirmed that it contained the functionality required for the compilation of the MXPI. Accordingly, work was identified to be undertaken to tailor the PPI system to meet MXPI requirements.

Weighting base period and frequency of rebasing

28. The decision to smooth the index weights by basing them on the average value of imports over the period 2007–2010 was re-affirmed. 2011 was not considered to be a “normal” year.

Methodology for determining the structure, composition and weights

29. The methodology used to determine the MPI composition and weights (see paragraphs 61–68 of previous report) was reviewed, and the composition and weighting pattern confirmed, subject to minor modification as described under Source Data below.

30. 411 8-digit HS items, out of a potential 6,000 plus HS items, had been selected for pricing in the MPI using cut-off sampling techniques to form the index basket.

Source Data

Price indicators

31. The next step is to obtain price indicators for each of the selected 8-digit HS import items. The initial approach was planned to rely on Customs unit values for selected major countries of origin. Analyses have shown that the data quality associated with the use of unit values is vastly improved if country mix is eliminated from the unit values.

32. Since the previous mission, the MNSO proceeded to follow the forward work program developed during that mission. The plan was to initially compile an experimental MPI based on unit values. It was planned to then progressively replace the unit values with survey-based prices on a staged, prioritized basis and compile hybrid indexes until the replacement was completed. Accordingly, the steps outlined in the forward work program were followed; however, work could not proceed to actually calculate the price relatives and index numbers because of major problems with the credibility of the unit values for the selected 8-digit HS items by country.

33. The current mission undertook a thorough analysis of the quarterly time series of the selected country unit values for imports (1,273 in total) for the years 2010 and 2011. A broad assessment was made as to the credibility of each series as an indicator of pure price change. Series that were highly volatile with violent fluctuations period-to-period were assessed as non-credible; series that were relatively smooth with more modest fluctuations were assessed

as credible. In borderline cases, the series were given the benefit of the doubt and categorized as credible.

34. The result for imports was extremely disappointing. 1,041 of the 1,273 series were assessed as being non-credible; i.e. 82 percent. While there was a degree of subjectivity associated with this assessment, it was undertaken by a group of staff and, in most cases, the decisions were clear-cut.

35. There are two basic causes of the non-credible unit values (even after eliminating country mix, which is, in itself, a major cause):

- compositional mix of products; and
- incorrect quantity data (misreporting and Customs not editing closely because their main focus is on value data for revenue purposes, switching of units, etc.).

36. There are clearly very serious problems with the Customs quantity data and ongoing liaison between the MNSO, and Customs will be required to improve the data.

37. As the unit values are not suitable, a change in strategy is required and it will be necessary to initiate price surveys before any index compilation can be undertaken. It is therefore essential that resources be provided to fund a program of import and export price survey initialization interviews and the subsequent ongoing price collections.

38. An intensive program of field interviews needs to be undertaken in order to obtain the necessary prices for all of the selected 8-digit HS items before index compilation can be undertaken. The interview program will need to be undertaken within a relatively short time frame so that all the price series can commence in the same quarter and support a common annual time reference period for each index because it is not feasible to obtain retrospective quarterly prices too long after the event.

39. During the current mission, generic Import Price Survey and Export Price Survey questionnaires were developed for Malawi.

40. These generic forms were designed to be customized for each of the import and export establishments selected for the surveys through the incorporation of specific product specifications, units, countries of origin or destination and the currency of the transaction that were to be identified during the initialization interviews with each establishment.

41. To establish a direct price collection from major importers (or exporters), the principles to be applied in the selection of samples of specific products for quarterly price collection are:

- the sampled products are to be representative of a wider range of products in terms of price change over time;

- they will usually be the importers' largest imports by value;
 - if possible, they should be regularly imported;
 - as a rule of thumb, a maximum of three products should be selected to represent an 8-digit HS item from each importer; and
 - in order to price to constant quality over time, and reflect pure price change, full specification of all the price-determining characteristics of the physical product, unit of quantity and transaction details such as the country of origin and the currency of the transaction are required. Note that prices are to be converted in the office to Malawi Kwacha for index compilation.
42. The November 2012 mission report contains the following documentation to support the initialization of direct price collection from a sample of importers:
- Appendix V presents "Field Interviewers' Instructions," aimed at guiding a field interview program and ongoing price collection;
 - Appendix VI contains an "Introductory Letter to Importers;" and
 - Appendix VII provides an "Interview Guide" for use during the interview to ensure every topic is covered and to record product and price details.
43. The main steps involved in initializing an Import (or Export) Price Survey are:
- contact each importer to arrange an interview;
 - conduct the interviews. The selected importers need to be interviewed to initialize the quarterly collection. The Field Interviewers' Instructions explain the need to select, for each importer, up to three (as a rule of thumb) detailed representative product specifications for each selected 8-digit HS code that are suitable for repeat pricing. The interviewer needs to ensure that all the price-determining characteristics of each product are fully specified;
 - undertake follow-up action, including re-interviews, as necessary;
 - create a tailored collection form for each importer;
 - on an ongoing quarterly basis, deliver the tailored collection forms, undertake collection control and edit and query the prices; and
 - load the prices (after converting to Kwacha (K), as necessary) and compile the indexes.

44. The sample of importing establishments was selected during the mission. This was a very time consuming exercise, involving a number of steps

45. Firstly, each of the 411 8-digit HS codes selected for the MPI basket (see paragraphs 29 and 30 above) were identified on the Eurotrace system, and 2012 shipment information for each importer was transferred to Access.

46. Then, for each importer the shipment values were aggregated to annual totals.

47. In Excel, the importers were sorted by value (largest to smallest) within each 8-digit HS item and percentages, and cumulative percentages, calculated.

48. Broad business rules were then applied to the selection of the sample of importers:

- the 8-digit HS items were categorized as “large” (2012 value over 10 billion K), “medium” (1–10 billion K) and “small” (less than 1 billion K);
- for the “large” items three or more importers were required and high coverage (70 percent plus if possible);
- for the “medium” items, two importers were required and coverage of 50 percent plus if possible; and
- for the “small” items, one importer would suffice if it dominated. The number of “small” items was subsequently reduced (see paragraphs 49 and 50 below).

49. After netting of duplicates (importers selected for more than one HS item) the exercise resulted in the selection of a sample of 204 importers. While this was a reasonable sample size given the diversity of Malawi’s vast range of imports, in the context of the resource situation, it was decided to scale down and further reduce the sample size by pruning relatively small 4- and 8-digit HS items.

50. The pruning resulted in the deletion of 83 HS items (i.e. reducing the number from 411 to 328, or 20 percent) and a corresponding reduction in the sample of importers from 204 to 165 (again nearly 20 percent).

51. Next plans were developed for the conduct of the initialization interviews and ongoing quarterly price collection.

52. This process needs to be repeated for the XPI. There will be a much smaller number of HS items, and hence exporters, required for the XPI compared with the MPI because of the smaller range of export items and concentration of more basic products. For budgetary purposes, it will be assumed that the sample size for exports is approximately half the size of the imports sample, say a maximum of 75 exporters.

53. In order to conduct the initialization interviews within a relatively short period (say 4-6 weeks) so that the price series can have a common commencement period (see paragraph 38 above), it will be necessary to train a group of about 12 MNSO staff from the Trade and other areas to work intensively, full-time, for a short period on the collection initialization. It is proposed that both the import and export price surveys be initiated before the end of 2013 so both indexes can have the same reference base period of 2013.

54. A Funding Proposal with resource estimates is provided in Appendix II below.

C. Serviceability

Periodicity and Timeliness

Periodicity and span of the indexes

55. Assuming funding is provided for the conduct of all the import and export price survey initialization interviews to be completed before the end of 2013, it will then be feasible to obtain prices for the four quarters of 2013 and calculate average annual 2013 prices for the reference period. The MPI and XPI could then be calculated for each of the four quarters of 2013 and then the ongoing quarterly collection of prices and would support the calculation of a quarterly MPI and XPI from March quarter 2014.

Publication goals and dissemination policy

56. The longer-term goal is to publish indexes at the total and 2-digit HS Chapter level for each index, subject to analysis of the data.

57. Annual and quarterly indexes down to the 8-digit level should be provided to National Accounts on an as-needs basis, with any necessary caveats.

Five-yearly index rebases

58. The indexes should be fully rebased at least each five years. The pattern of imports and exports should be monitored on an annual basis to ensure the weighting patterns remain broadly representative.

Training

59. Training on index methodology and price collection initialization was provided to staff. Emphasis was placed on aspects such as pricing principles and index aggregation processes such as the derivation of EA indexes and the application of base weights to calculate indexes at higher levels of aggregation. See Appendices III and IV.

Work program

60. A work program for the development of the MXPI is provided in Appendix I.

III. PRODUCER PRICE INDEXES

61. A review of the new PPI was undertaken during the mission. The main issues addressed were the index series and compilation procedures, and a communication and dissemination strategy, including the publication content.
62. The index time series in the compilation spreadsheets were examined and the compilation procedures reviewed. A modification to the application of the two-stage Jevons aggregation formula was proposed.
63. A broad communications strategy to support the release of the new measure was developed. This strategy is particularly important because many users will not be familiar with a PPI and may be confused by a new set of index numbers “competing” with the well-established CPI.
64. The main elements of the strategy are:
- tailored briefings to key stakeholders;
 - media briefings; and
 - press releases prior to, and at the time of the release of the new publication, explaining the basic concepts of a PPI and its relationship to the CPI.
65. The publication format needs to be finalized. It is proposed that, at the 2-digit level of ISIC, and the “All index” PPI, tables containing time series of
- quarterly index numbers; and
 - quarter-to-quarter percentage changes for the 7 quarters from March 2012 to September 2013 be presented along with a graph of the quarterly index numbers.
66. The explanatory notes should include a description of a PPI and its basic concepts, i.e.:
- selling prices for the output of the manufacturing and utilities industries;
 - ex-factory prices with a valuation basis of “basic prices”; and
 - relationship with CPI, which measures “purchasers’ prices” paid by households.
67. The Main Features should outline the main movements in the index numbers for the latest quarter (September 2013) for the All items and component indexes and the basic reasons (if known). The main contributors to the “All items” index movements should be identified.
68. The website release also needs to be designed and email distribution planned.

69. As the reference periods of the CPI and PPI are the same (2012), graphs should be prepared internally comparing the quarterly index numbers, and percentage changes, for the two indexes and their main components. This will support internal analysis of the respective series and their relationship. Because producer output that is exported is a leakage from the domestic production and distribution system, ideally the PPI components that are predominantly exported should be excluded from the analysis.

70. In the longer term, consideration should be given to expanding the scope of the PPI to cover other major industries.

IV. CONSUMER PRICE INDEX

71. At the request of AFR, the mission followed up on the issue of linking the new, rebased CPI series (using the COICOP classification) with the old series (with the CPC classification) backwards to provide continuous long-term series at a more detailed level than All items.

72. Senior management indicated that the monthly CPI was recompiled retrospectively for two years (i.e. 2010 and 2011) to provide continuous monthly series from January 2010 to August 2013 for each of the (new) publication commodity groups. This was an extremely resource consuming undertaking and, because of severe resource constraints, the MNSO is not in a position to recompile the index for any earlier years. In order for AFR to get an Excel copy of the revised series for 2010 and 2011, the authorities have indicated that the IMF Resident Representative will need to contact the Commissioner directly.

73. In relation to the request to provide spreadsheets containing monthly indexes of individual items and weights, data at this level of detail is considered by the senior management as being confidential under the Statistics Act.

APPENDIX I. MXPI PROJECT TASKS AND TIMETABLE

	Completion date
The following activities are all essential and high priority	2013
1. Finalize and submit the Funding Proposal	completed
2. Calculate XPI structure, composition and weighting pattern	completed
3. Select and analyze the export unit values (as for imports)	completed
4. Decide whether an experimental unit value-based XPI is feasible	completed
5. Select sample of exporters	completed
6. Finalize import and export price survey questionnaires	completed
7. Conduct initialization interviews incl. follow-up	end Dec *
8. Create tailored forms	end Dec *
9. Ongoing quarterly price collections	ongoing
10. Customize the PPI processing system to meet the needs of MXPI	end Dec
11. Calculate 2013 average prices for the base period	end Dec *
11. Enter prices on system	ongoing
12. Ongoing quarterly compilation	ongoing

* The MNSO is currently under-funded. Any further development work would be subject to the funding proposal being approved and the MNSO budget being increased.

APPENDIX II. FUNDING PROPOSAL FOR IMPORT AND EXPORT PRICES SURVEYS

An IMF technical assistance missions in November 2012 assisted in the development of quarterly Import and Export Price Indexes (MXPI). The initial MXPI were to be experimental measures using quarterly country-specific Customs unit values as the price indicators. The intention was to replace the unit values with survey-based prices in the longer term. However, subsequent progress on the compilation of the proposed experimental measures came to a halt because of major problems with the unit value data.

During the current mission, a detailed analysis was undertaken, for the years 2010 and 2011, of the quarterly time series of country-specific unit values selected for the experimental Import Price Index (MPI). It was assessed that less than 20% of the series provided credible indicators of pure price change over time.

Therefore a change in strategy is now required and it will be necessary to initiate price surveys before any index compilation can proceed. It is essential that resources be provided to fund a program of import and export price survey initialization interviews and the subsequent ongoing quarterly price collection.

Accordingly, during this mission, quarterly import and export price surveys have been designed and a work program developed for their implementation.

An intensive program of initialization interviews will need to be undertaken within a short time frame so that all the price series can commence in the same quarter and support a common annual index time reference period because it is not feasible to obtain retrospective quarterly prices too long after the event. Ideally, the interviews will be completed before the end of 2013, so that 2013 can be the time reference period and index compilation can commence straight away. If the conduct of the interviews is delayed, the time reference period will need to be for a later year and the whole project deferred until the reference period prices are collected.

The MPI and XPI are important economic indicators used to assist in managing the economy. The indexes are valuable in allowing the calculation of the Terms of Trade (TOT). The MPI is particularly important in providing early warning signals of impending downstream household inflation. The indexes also play a critical role in the calculation of national accounts quarterly volume measures.

In circumstances where the TOT are deteriorating, the currency is falling in value and household inflation is extremely high, MXPI measures would be invaluable in supporting national economic management.

A sample of 165 importers has been selected for the MPI survey; it is estimated that the sample size for the XPI survey will be about 75, making the total number of survey establishments about 240.

Initial estimates of the cost of travel, allowances, printing, etc. required for the initialization interview is 5 million K; an estimated 10 million K would be required each year for the ongoing, quarterly price collections. A team of existing staff would undertake the initialization interviews over a 3-week period, ideally before the end of 2013.

APPENDIX III. PRICES TRAINING PROGRAM

Concepts and methods

1. Documentation

- Mission report
- Appendix III of previous report - Ten Steps in PP/TPI (XPI and MPI) Development
- Appendix IV of previous report - PPI Technical Notes
- Appendix IV of current report - Long Term System of Price Indexes

2. International XMPI and PPI Manual

3. What a price index does and doesn't measure

- Price movements over time, not levels
- Movements within a geographic area over time
- Temporal (over time) v. spatial (space/location at a point in time) indexes
- International Comparisons Program (ICP)

4. Confidentiality

- Statistics law
- Index nos. not prices
- Broad aggregates
- Publication rules

5. Main elements of a price index

- Time reference period (= 100 or 100.0)
- Arithmetically re-referencing an index (scale, i.e. apply a factor of "100/value of original index in the new reference period" to the time series)
- Prices
 - Samples as indicators of a broader range of products
 - Market transaction prices
- Collect levels to derive movements/changes over time
- Index structure and regimen (items)
- Weighting base period
- Weights

6. System of PPI, CPI, XPI, MPI (Appendix IV) – system of production and distribution flows

7. Pricing points

- Output indexes
 - selling prices
 - ex-factory, ex farm, etc.

- valuation basis – “basic prices” excluding trade and transport margins and product taxes

Input indexes

- purchasers’ prices
- valuation basis “purchasers’ prices” including trade and transport margins and product taxes

Note that there is an overlap between a CPI and a PPI in terms of householders’ transactions in consumer services (e.g. transport, accommodation, business services)

8. Relationship between a CPI, PPI, MPI and XPI

- PPI and MPI can provide early warning signs of impending downstream household inflation, i.e. upstream signals
- note consumer goods v. capital goods
- leakage of exports from domestic system/economy
- entry of imports into domestic system/economy

9. Analytical value of an Import Price Index (MPI) and Export Price Index (XPI)

10. Ten Steps in PPI Development (Appendix III of previous report)

11. Pricing principles (ref. Appendix IV of previous report)

Constant quality, quality adjustment

Specification pricing – product and transaction specs. – transaction pricing

Transaction prices – include discounts for volume, customer/market, supply and demand

Do not want “list” or “book” prices – only the starting point in deriving transaction prices

12. Model pricing of unique products

Refer PPI Technical Notes (Appendix III of previous report)

13. Sampling - See Technical Notes (Appendix IV of previous report)

- items for direct pricing
- establishments
- products for repeat pricing

14. MPI and XPI objectives, scope and conceptual basis

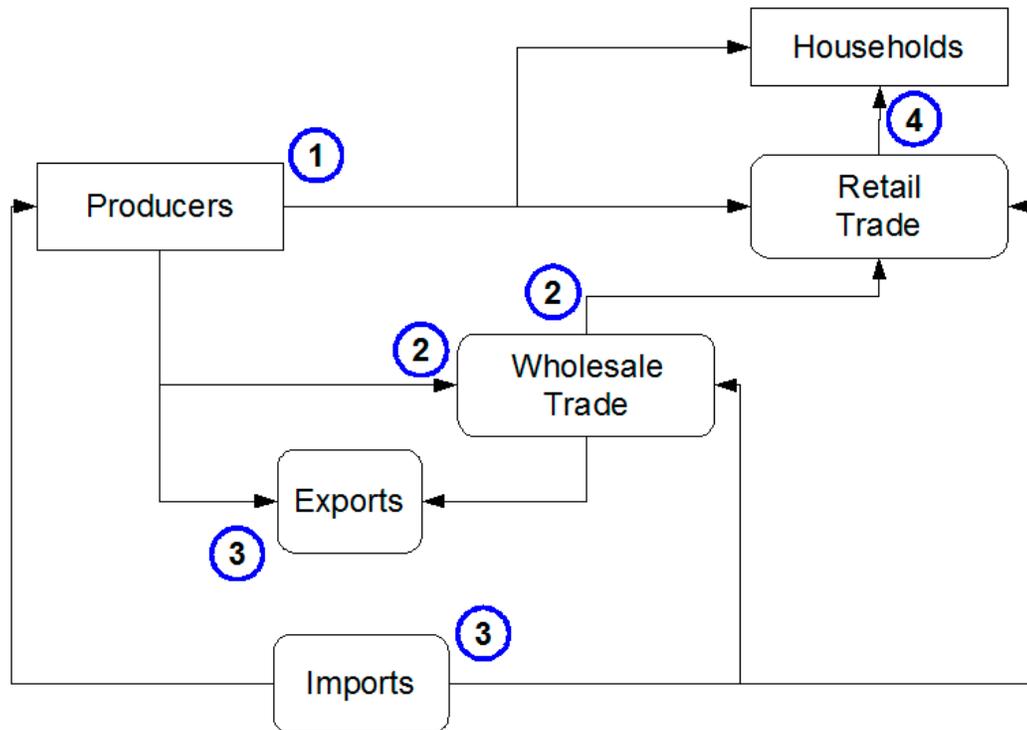
15. Editing and analysis – see Technical Notes (Appendix IV of previous report)

16. Publication goals

17. Coverage, classification, structure and weighting pattern

APPENDIX IV. LONG-TERM SYSTEM OF PRICE INDEXES

LONG-TERM SYSTEM OF PRICE INDEXES



- ① Future Producer Price Index (PPI) – Phase I
- ② Existing Wholesale Price Index (WPI)
- ③ Future Import Price Index (MPI) and Export Price Index (XPI) – Phase II
- ④ Existing Consumer Price Index (CPI)