



STATISTICS
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FOREIGN TRADE STATISTICS (FTS)

Report from a mission to the National Statistical Institute of Mozambique, Maputo,
Mozambique

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within the frame work of the

*AGREEMENT ON CONSULTING ON
INSTITUTIONAL CAPACITY BUILDING,
ECONOMIC STATISTICS AND RELATED AREAS*

between

INE and Scanstat

*Hans Kristian Østereng
Krassimira Jeneva*



INSTITUTO NACIONAL DE ESTATÍSTICA

Hans Kristian Østereng
Senior Adviser, Statistics Norway
E-mail: hko@ssb.no , mob.: 0047 4500 4952

Krassimira Jevena
State Expert, National Statistical Institute Bulgaria
E-mail: KJeneva@nsi.bg , mob.:00359 887 210 181

List of abbreviations

FTS	Foreign Trade System / Sistema de Comércio Externo
INE	Instituto Nacional de Estatística, Mozambique
MZM	Mozambique Meticais
Scanstat	Consortium between Statistics Denmark, Statistics Norway and Statistics Sweden

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1 EXECUTIVE SUMMARY

1.1 Major reason for the mission

This mission was arranged as a follow-up of the mission which took place during 19th of September until 4th of October 2011. Since then, Customs has significantly changed their system, which has impact on both data and metadata.

Earlier mission reports give an extensive documentation about what have been done in this project.

1.2 Major conclusions

During the first days (week) we analyzed the situation and what has been achieved since the last mission 19th of September to 4th of October 2011. Error lists for the 2nd quarter 2012 was made, and error analysis and correction work started. New metadata information (reg. CPC¹ and Pauta 2011) was made available. During the 2nd week we worked with revision of the metadata / catalogues, error correction and handling of errors, improve price controls including weight & quantity information, renew & update the SPSS programs.

The FTS staff has managed to process data using the SPSS system and status is by November 2012:

- **FTS data for the year 2011 are processed and finalized.**
- **Data for the 3 first quarters of 2012 are delivered and 1st quarter run.**

The Customs introduced the *Single electronic Window* system (SeW, or JUE) in September 2011. This system is quite different from TIMS, e.g. the Customs Regime CPC, is different and the codes based partly on an international (EU/UN) standard. The same concerns other types of codes / classification. In total, it seems likely that JUE will produce data of better quality than TIMS. As a conclusion,

1. *This opens the opportunity for more frequently transmission of data from Customs to INE, e.g. monthly batches, or even two times a month. The data might be transmitted directly via lines or via internet (encrypted files).*

¹ The *reg-cpc* table is used to identify the *flows* (i.e, which Customs procedure that is an imports, an export or not a flow, which has to be included in trade statistics data), and to classify the *type of trade* in *General trade* (border passing) and/or *Special trade* (goods passing in / out of free circulation).

INE will hopefully in very near future improve two important technical systems. An upgraded server system will be in place, with new servers installed. In addition a new telephone system is now installed, so that FTS staff can call all data suppliers & customers etc., without using their private mobile phone. As a conclusion:

2. *This allows the FTS to any time call the traders, the Customs or other institutions about error corrections, system maintenance and development and with contact + questions from users.*

1.3 Main recommendations

On the basis of the two weeks work we might conclude to following:

1. **The periodicity of FTS production should be changed. The conclusions 1 and 2 above are important conditions for changing FTS into a monthly production & dissemination cycle. This step will increase the quality and timeliness of the MZ FTS.**
2. **The SPSS system: WHEN Customs (or international body for standards) update the metadata, INE / FTS shall also update instantly.**
 - a. During the mission we found that metadata is not properly updated, in particular the Commodity catalogue and the CPC catalogue. Units of quantity measures are not harmonized. Customs input for metadata is needed.
 - b. During the mission metadata has been updated. A new commodity catalogue was made, based on a version of Pauta from 2011. A new Reg. CPC catalogue over Customs procedures was set up, and merged with the old Reg. CPC catalogue. Program 03, running the controls and producing error lists was changed to a more simpler version & design. A few new automatically data corrections for some categorical variables were introduced into the program 02.
 - c. The Price Master for imports and exports was updated, based on 2011 data. The old master files were from 2007 data. The programs for updating the master files are still in SAS. We will translate these programs into SPSS, so the FTS staff can run the programs themselves.
3. The input of **EXTRA-data** from the National Bank need a total change, since it does not function - see explanations below. INE / FTS should as a universal rules:
 - a. **USE and publish all Customs-Delete items,** see more explanations in § EXTRA-data below. As a consequence, the Customs-Delete files will be included in the FTS data, and processed by the control program (03).
 - b. EXTRA-data information (tables) from the NB will be compared with Customs-Delete data and analyzed. If NB reports higher values this may indicate that Customs are under-reported or declarations are missing.

- c. **INE / FTS should start collecting EXTRA data directly from the importers / exporters**, e.g. start with the most 'simple', but more efficient. See more in § 2.3 below.
 - d. For some products we know that declarations are missing or mainly not reported, e.g. Mozal. In these cases, **additional items have to be made by FTS staff**. Over time, INE will find ways to improve the quality of these data.
4. **ERROR-corrections** need further development:
- a. **FTS Manual should be translated into Portuguese.**
 - b. Develop further good **routines for checking of "high-value" items**, => 50 mill MZM.
 - c. INE / FTS should **REQUEST Customs to deliver data where :**
 - i. **Corrected declarations** of earlier received original declarations are marked, or to extract + send these declarations separately
 - ii. **Delayed declarations** (coming up to many month(s) too late) are marked, or to extract + send these declarations separately
 - d. INE/FTS should **not repeat data correction on a full (duplication) of the annual item data**, if Customs again deliver an annual item file (all declarations for one year) WITHOUT change data deliveries according to points i. and ii. above. This work is not compatible with the principles for a production system. Work out solutions under point 'c' above is absolute necessary.
5. **DISSEMINATION**: More tables have to be produced; More attention to users, WEB – FTS section, see § 2 and example of Press Release annexed. **INTRODUCE a., b., c. below.**
- a. **Press Release table, SITC-tables and Country-tables should be made as a regular release of new (monthly) FTS data.**
 - b. **Director of Economic Statistics should approve figures / tables, to be sent to Dissemination Department under Direction DICRE.**
 - c. **All regular tables should be published via WEB.**
 - d. **A release calendar should be elaborated and published via WEB to promote the data availability and facilitate the FTS data users.**
6. **INE – move FTS – SPSS production into a server system**: This is very important goal to reach for the future of the FTS at INE. This step enable full access to all FTS files, so that the FTS staff can work simultaneously, not like now exchanging files between single PCs. The backup solutions will be much safer and stronger.

The data & user security will be at completely another level. Updates of software / programs used, will be taken care of centrally, by the IT staff / Department.

1 SUMÁRIO EXECUTIVO

1.1 *Principal razão para a missão*

Esta missão foi organizada como um seguimento da missão, que teve lugar durante a 19 de Setembro a 04 de Outubro de 2011. Desde então a Alfândega mudou significativamente o seu sistema, o que tem impacto sobre os dados e metadados.

Relatórios de missões anteriores fornecem uma extensa documentação dos trabalhos que têm sido realizados neste projecto.

1.2 *Principais conclusões*

Durante os primeiros dias da missão foram analisados os desenvolvimentos desde a última missão, que decorreu de 19 de Setembro a 04 de Outubro de 2011. As listas de 'erros' para o 2º trimestre de 2012 foram executadas e a análise de erros e correcção do trabalho iniciada. A informação de metadados Novo (reg. CPC e Pauta 2011) foi disponibilizada. Durante a 2ª semana foi efectuada a revisão dos metadados / catálogos, a correcção e tratamento de erros, melhorados os controles de preços, incluindo o peso e a quantidade, renovados e actualizados os programas SPSS.

A equipa do Comércio Externo conseguiu processar os dados usando o sistema SPSS e o status até Novembro de 2012, é o seguinte:

- **Os dados do comércio externo para o ano de 2011, estão processados e finalizados;**
- **Os dados dos 3 primeiros trimestres do ano de 2012 foram disponibilizadas pelas alfândegas, estando os dados do 1º T já processados.**

As alfândegas introduziram o sistema de Janela Única electrónica (JUE) em Setembro de 2011. Este sistema é bastante diferente do TIMS, por exemplo o Regime Aduaneiro CPC é diferente e os códigos são em parte baseados num padrão internacional (UE / ONU). O mesmo acontece em relação a outros tipos de códigos / classificação. No global, parece que a JUE vai produzir dados de melhor qualidade que os TIMS. Como conclusão:

1. *Isto abre uma oportunidade para tornar mais frequente a transmissão de dados da alfândega para o INE, por exemplo, em lotes mensais, ou até duas vezes por mês. Os*

dados podem ser transmitidos directamente através de linhas ou via internet (arquivos encriptados).

O INE espera num futuro muito próximo melhorar dois importantes sistemas técnicos: Um sistema de servidor actualizado estará em vigor, com novos servidores instalados; Também um novo sistema de telefones será instalado, para que a equipa do Comércio Externo possa contactar os fornecedores de dados e clientes etc., sem usar o seu telefone móvel privado.

2. *Isso permite que os técnicos do comércio externo possam a qualquer momento, contactar os importadores/exportadores, as alfândegas ou outras instituições sobre correcções de erros, manutenção e desenvolvimento dos sistemas.*

1.3 Principais recomendações

1. **A periodicidade da produção dos dados do comércio externo deve ser alterada.** As conclusões 1 e 2 acima referidas são condições importantes para haja mudança do **ciclo de produção e divulgação para mensal**, dos dados do comércio externo. Esta etapa irá aumentar a qualidade e a pontualidade dos dados produzidos.
2. **O sistema SPSS: Quando as Alfândegas (ou de um organismo internacional para padrões) actualizar os metadados, o INE / CE, deve também actualizar estas classificações/nomenclaturas imediatamente.**
 - a. Durante a missão verificou-se que os metadados não estavam devidamente actualizados, no catálogo especial 'Commodity' e catálogo CPC. As unidades de medida de quantidades não estavam harmonizadas. É necessário criar um 'input' para metadados das alfândegas.
 - b. Durante a missão os metadados foram actualizados. Um novo catálogo de bens foi produzido, com base numa versão da Pauta de 2011. Foi também criado um novo catálogo de Regime CPC, sobre os procedimentos aduaneiros. O novo catálogo CPC e o antigo foram fundidos. O Programa 03, que executa os controlos e produz listas de erros, foi alterado para uma versão e desenho mais simples. Foram introduzidas novas correcções automáticas de dados, para algumas variáveis categóricas no programa 02.
 - c. A lista de Preços base, para importações e exportações foi actualizada, com base em dados de 2011. Os arquivos 'mestres' antigos de preços datavam de 2007. Os programas para actualizar os arquivos mestres ainda estão em SAS. Esses programas vão ser traduzidos para SPSS, para que a equipa do Comércio Externo os possa executar.
3. A entrada de **Fontes Externas (EXTRA-data)** do Banco de Moçambique (BM) precisa de uma mudança total, uma vez que não funciona - ver explicações abaixo. INE / equipa do CE deverá ter como regras universais:
 - a. **USAR e publicar todos os itens do ficheiro 'Customs delete'**, veja mais explicações no § Fontes Externas abaixo. Como consequência, os arquivos

- Customs-Delete serão incluídos nos dados de CE, e processados pelo programa de controlo (03).
- b. Informações de Fontes Externas (tabelas) do BM serão comparadas com as do ficheiro 'Customs delete' e analisados. Se o BM relata valores mais elevados, isto pode indicar que há declarações sub-notificadas ou que estão faltando nas alfândegas.
 - c. **A equipa do INE / CE deve iniciar a recolha de dados de Fontes Externas directamente dos importadores / exportadores**, por exemplo, começar com o mais "simples", mas mais eficiente. Veja mais em § 2.3 abaixo.
 - d. Para alguns produtos, sabemos que as declarações estão faltando ou principalmente não houve informação, como é por exemplo o caso da Mozal. Nestes casos, **os itens adicionais têm de ser feitos por técnicos do CE**. Com o tempo, o INE irá encontrar maneiras de melhorar a qualidade desses dados.
4. **ERROR-corrections**: As error correction precisam de ser melhoradas:
- a. **O Manual de Comércio Externo deve ser traduzido para português;**
 - b. É necessário desenvolver **rotinas adequadas para verificação de "alto valor" itens**, => 50 milhões de MT.
 - c. A equipa do INE / CE, deve **solicitar às Alfândegas para entregar dados, se:**
 - i. Existiram **declarações corrigidas** em relação a declarações originais recebidas, extrair e enviar estas declarações em separado;
 - ii. Existirem **declarações atrasadas** (chegando até muitos (s) meses mais tarde) devem ser marcadas, extraídas e enviadas em separado.
 - d. A equipa do INE / CE **não deve repetir a correcção de dados anuais completa (duplicação)**, se Alfândega novamente entregar um arquivo de dados anual (todas as declarações para um ano) SEM alterar as datas de entrega de acordo com os pontos i. e ii., acima referidos. Este trabalho não é compatível com os princípios de um sistema de produção. Encontrar soluções a alínea c) acima referida é absolutamente necessário.
5. **DIVULGAÇÃO**: Mais quadros têm de ser produzidos; é necessário dar maior atenção aos utilizadores, WEB - secção STF, ver § 2 ° e exemplo de Imprensa anexo. **Introduzir a), b), c). abaixo.**
- a. Os quadros para a imprensa, tabelas SITC e por País, deve ser produzidas mensalmente de forma regular;
 - b. O Director de Estatísticas Económicas deve aprovar quadros/dados, a serem enviados ao Departamento de Divulgação de Informação (DDD).
 - c. Todos os quadros mensais a produzir regularmente devem ser publicados na WEB.
 - d. Um calendário de disponibilização da informação deve ser elaborado e divulgado via WEB para promover a disponibilidade de dados e facilitar os utilizadores dos dados do comércio externo.
6. **INE - mudar o sistema SPSS do CE – a produção deve ser efectuado num servidor**: Este é um objectivo muito importante para alcançar o futuro ao nível do processamento de dados do CE no INE. Este passo permitirá o pleno acesso a todos os arquivos do CE, para que os técnicos do CE podem trabalhar simultaneamente, evitando a troca de arquivos entre PCs individuais. As soluções de 'backup' também serão muito mais seguras e eficazes.

A segurança de dados e dos utilizadores com um sistema a funcionar no servidor, estará noutra nível. As actualizações de software / programas utilizados, serão efectuadas de forma centralizada, pela equipe de IT do INE.

2 REASONS FOR THE CONCLUSIONS & RECOMMENDATIONS

1.4 The SPSS system

The FTS staff has been using the SPSS programs to finalize a complete set of 2011 data. Based on this data the National Bank (NB) has received a report (tables over selected commodities for imports and exports).

By October 2012 INE has received Customs data for Jan to Sept, the three first quarters 2012. The 1st quarters has been run and corrected. During the week ending the 2nd of November, data for the 2nd quarter were processed (not corrected).

However, metadata and especially the *Commodity Catalogue*, has still not been updated according to changes in the Tariff (Pauta). As a part of this work, the SITC rev4² nomenclature was updated as well. One of the Press Release tables is made by SITC products.

Another practical change affecting the metadata is implementing of the new Customs system for regime (*Reg.CPC*). These codes are used to limit the FTS statistics coverage, and to classify the FTS in General Trade and in Special Trade according to IMTS recommendations. To make the controls of old customs data (TIMS) and the new (JUE), the old and new Reg.CPC catalogue has been merged into one single catalogue.

The FTS staff **should not neglect** the practical work on regularly updating of the metadata (all catalogues input to programs, and codes which are written directly into the programs). This still has to be taken more serious by the FTS staff.

1.5 The ERROR corrections

The FTS Manual need an update and should be translated into Portuguese. However, since it needs to be updated, the consultants started to revise the English version first, and produce a rough translation, which might be finalized by INE staff.

ERROR code 'Un' is eliminated (text – quantity unit in Commodity catalogue and unit in data is NOT EQUAL). Since this control compare text fields and not codes, validity is difficult to check consistently.

High-value items (a warning in ERROR lists) have to be thoroughly checked or verified.

² SITC means Standard International Trade Classification, published by UN and used world wide as a standard for foreign trade in goods.

1.6 The EXTRA-data and the National Bank (NB)

A list over products & companies which might be contacted, concerning Customs Delete data and under-reporting of Customs declarations, might include among others, the following:

Product(s) Company

Electricity - EDM

Tobacco - MOCAMBIQUE LEAF TOBACCO IMPEXP (See Appendix 6, Table 04)

Aluminium - MOZAL

Bananas - ? To be identified...

Oil products - ?

Natural Gas - ?

Coal - ?

Bunkers - ?

*In a new routine, INE – FTS can produce tables, e.g. like in Appendix 6, **TABLE 04-B** below, and establish contact with the main importer / exporter, and ask / agree that the company might confirm of their Customs declarations are complete. If not, they could help to propose what items should be reported to FTS in addition.*

The background

In the original design of the FTS SPSS system, data (meaning Customs declarations) from a small number of traders (around 10) is considered not delivered in a complete set of declarations for their imports and/or exports, or they did not declare at all.

To handle this situation, a selection was programmed to pick out all Customs declarations from these companies (named as Customs-Delete files). As a substitute, the data for these companies should be delivered from the NB, and INE include them in the FTS input files (named as EXTRA data files).

Firstly at this mission we see that now, this arrangement does not function as it should. The selection done in the procedure extracting the Customs-Delete files, is not precise enough. It is difficult to find unique and safe selection criteria.

The data NB deliver is not data at all, rather a mixture of unstructured tables not fitting to the required from INE data format, which includes monthly and quarterly aggregates, with values only in USD and no clear specification of products as demanded in the declarations, however the whole FTS system is based on values in Meticaís. Also it is not clear if these data are based on reports from the traders, or they are based on estimation done from NB.

The FTS staff explains that the NB demands that FTS shall use their figures that NB is setting up on trade for these products. The staff has started a big operation to change the Customs-Delete files so to compile up to the total values the bank wants. This involves a complex series of manual operations on the files, and leads to a significant change of customs data.

The tables INE receive from the NB are not any collection of primary data, rather an undocumented mixture of source information, which none of the FTS staff understand how is made up. This is directly against any principle for how to set up a statistical system, where the primary data collection should be based on Customs and alternatively

directly from the trader or other administrative data source e.g. VAT administration. *And in such cases, with the same file format as INE use for the individual item data.*

As basic rules:

1. The Customs Delete files should will be kept, and used as input for further production. From these files, monthly tables (aggregates) will be produced and sent to the NB.
2. If the bank concludes from their data, that for this product there is an under-reporting (in Customs), these traders have to be investigated in more details, and new source data has to be presented based on the reports collected from these companies. Such data should be organized in the INE input format (it means including all the variables needed for INE to process FTS data).
3. On the other hand, the NB might have access to the FTS data, in details or on an aggregated level which they need. The NB is an important **user** of FTS, and serving them should have high priority.

1.7 The National Accounts' needs

We met with the National Accounts to discuss what is important for them to get from FTS. There are two needs:

1. To deliver files aggregated up the nomenclatures used at NA. This can be done by expanding the Commodity Catalogue with the NA nomenclatures. Then tables can be produced directly from the FTS data, by the FTS staff.
2. Prices and quantity of main products. Since quantity and prices are important for the main imports/exports products in the NA, the Price Control in the SPSS system should focus on these products. We can activate the messages, so to be active only on the most important products. Prices outside given limits will then be masked in the ERROR-lists, and these declarations might be checked and eventually corrected.

The most important commodity numbers in the trade data, is the products which will give impact on National Accounts. We therefore will activate a Price Control for the most important commodity numbers, both for imports and for exports.

A first goal is to get price warnings checked by the FTS staff to see the reliability of these warnings. Eventually to change the criteria for checking big items.

As a second step, we will link the CNBS nomenclature to the commodity catalogue, so that aggregates on NA products can be produced and delivered to NA.

1.8 FTS: Quality of weight & quantity information, Customs declarations

The quality of the weight and quantity information is closely related to how the FTS production system functions in general. First when a monthly production cycle is applied, the staff will get good routines for data error corrections. The second condition

is that the Price Control warnings are investigated properly, and that the checking of HIGH-value items are done systematic and properly.

When data becomes better (weight & quantity info), the Price Master and middle-prices will be more reliable. Then it will be time to introduce index calculations for FTS.

3 FTS - THE USERS' NEEDS AND THE SPSS SYSTEM

1.9 WHY a *statistical Production System*?

For descriptions and more details about the SPSS system for FTS, see the 2011 mission report § 2 and in specific 2.1. It is a big work to make up a whole *production system*.

The goal with all this work is to make the FTS staff to learn how to handle a *Production System* for one single statistics.

A *Production System* is a routine built up by (computer based) repeated operation, where the data collection and data processing is done in same manner for each round. The Metadata catalogues should be continuously updated according to changes in the data sources (Customs and traders). Data should pass via fixed line connections. Overlapping of files is not allowed, only when that file is erroneous / corrupt. Files are kept in order to keep documentation of the data processing steps. File treatment / changes are mainly done by running programs, except work directly on error-corrections. Quality improvements can be done step-by-step, and best small enough not to influence the time series too much (comparability maintained).

The *Production System* has to be stored in server environment. One reason is that many staff can work on the same system at the same time. Another is to secure sufficient backup. A third is security from virus infections, from unregistered copying of data and from unauthorised access.

The gold for the institutions are the single bricks of each *statistical production units*. The sum of these bricks counts up to the capacity and to the total quality of the *national statistical system*. The staff behind the real production units and behind the IT tools used (the central server system) are the most valuable staff to engage and to keep.

Single surveys, not planned and implemented as a part of a long-term statistical production system, have far from the same value as an integrated survey, targeting a sustainable rotating system. A reason is that single surveys, starting more or less from scratch each time, can't prove and secure the relations between the time series figures. Macro-economic models like the National Accounts can not be built up as reliable systems, without such production units as primary data inputs.

1.10 WHY a marketing of FTS?

Official statistics without users is like a donkey without an owner; you never know where it ends up. What makes people interested in *Official Statistics*? Probably, because it might be useful.

FTS is one of the most requested information world-wide, which the official statistical institutions produce. It even has a quite high potential for sale of ad-hoc work, tailor-

made tables and analysis. FTS are an important source of information for public and private sector decision makers. The FTS data are used for multilateral and bilateral trade negotiations, common commercial policy, to define and implement anti-dumping policy, to evaluate the progress of common market and many other policies. Moreover, FTS data constitute an essential source for the compilation of BoP and NA. Properly linked to the business statistics they can be used for better understanding of the economic development.

National Authorities are normally one of many main users. Customs (which is a main data source) might need it, since Customs do not apply a statistical production based on the international recommendations. (The exemptions are countries where Customs are appointed the job to produce official trade statistics).

Another main user is the Ministry of Finance, related to the trade negotiations and trade policy on protection of national production of goods. The National Bank needs trade-in-goods' data to compile the Balance of Payments. In fact the BoP should be directly integrated in the National Accounts system, to avoid confusion about different figures for the same measurement.

What makes it useful to the users are mainly:

- **Timeliness.** The FTS has basically a monthly production cycle. Keeping a monthly period increases the general quality, since the staff gets better training in the work with data collection and processing. A quarterly period reduce the interest for the FTS figures to a minimum, especially when surrounding partners publish monthly data on statistics
- **Availability.** The FTS has to produce relevant tables, which should be accessible via the WEB. This is not a too big job, since table programs are easy to make, and quickly to run. And, the tables can be made near to fully automatic, up to loading the web servers.
- **Quality.** Users demand quality of the information. Users can help to detect serious weaknesses in the data quality. By letting them have a chance to open feedback, and to pay them attention, the input data quality will improve over time. Even the traders themselves (which in fact are an important user group), will see that improving their own declarations or reports on primary data, -will pay off.

To publish or not to publish that's not the question. The question is how and when to start.

2 APPENDIX 1. Persons met

Participants during the mission:

Mrs. Júlia Cravo, Mr. Lars Carlsson, director Mr. Azarias Nahnzimo, Mr. Afonso Soberano Uate, Mr. Geraldo Adriano Timbe, Mr. Belarmino Pindela, Mr. Cirilo Tembe, Mrs. Monica Magaua, Mr. Adriano Matsimbe.

Meetings during the mission:

Tuesday 30/10-2012 9:00 and Friday 2/11-2012

At National Accounts - INE with Mr. Hans K Ostereng, Mr. Geraldo Adriano Timbe and Mrs. Monica Magaua, Head National Accounts

Friday 9/112012 9:00-9.30

Mr. Geraldo Adriano Timbe, Mr. Afonso Soberano Uate, Mr. Belarmino Pindela, Mrs. Júlia Cravo, Mrs. Krassimira Jeneva, Mr. Hans K Ostereng

Friday 9/112012 11:30-12.30

Director Mr. Azarias Nahnzimo, Mr. Geraldo Adriano Timbe, Mr. Afonso Soberano Uate, Mr. Belarmino Pindela, Mrs. Júlia Cravo, Mrs. Krassimira Jeneva, Mr. Hans K Ostereng

In addition to meeting above, ad hoc discussions with Mrs. Júlia Cravo.

3 APPENDIX 2. Terms of Reference



INSTITUTO NACIONAL DE ESTATÍSTICA
DIRECÇÃO DE ESTATÍSTICAS SECTORIAIS E DAS EMPRESAS

Annex A
October , 2012

TERMS OF REFERENCE

**For a Short-term Mission to
strengthen the capacity of the system for Foreign Trade Statistics**

29 October to 09 November, 2012

within the

**AGREEMENT ON CONSULTING IN INSTITUTIONAL CAPACITY BUILDING,
ECONOMIC STATISTICS AND RELATED AREAS
BETWEEN INE AND SCANSTAT.**

Consultants: Hans Kristian Østereng SSB, Krassimira Jeneva NSI, Sofia

Counterparts: Azarias Nhanzimo, Adriano Atanásio Matsimbe and other staff at DESE

Introduction

As from 2001 the FTS had a series of mission where Statistics Norway (SSB) has been engaged.

During 2007 a pilot system was developed in SAS for starting a regular production of Foreign Trade Statistics (FTS) based on systematic file treatment and simple data processing. During 2008 these pilot programs were converted into SPSS, since SAS licenses were not affordable.

A mission took place between *8 and 18 September 2009*. During that mission the core SPSS programs in the FTS Pilot system were demonstrated in details. The staff started training SPSS syntax/programs, which is quite new to all the staff. The training was done just two weeks but was not enough for the staff to continue alone to run SPSS syntax and modify programs.

Further practical training and use of the SPSS programs was done during one mission in *March and another in September 2010*. The work included file and data treatment and organizing file & folder structures in a good way. The work was focused on executing data controls and how to get the correction of ERROR-lists into a permanent system. Also tables for publishing the corrected data were put in place. An overview over the Pilot system and long-term quality improvements were discussed and recommendations made.

The last mission took place 19 September until 4 October 2011. This focused on developing the SPSS system further on, focusing on quality and data correction work, on improving the communication with Customs, and setting up tables and recommendations for future dissemination of FTS information.

Agenda / program for the mission

In the start of the mission (preferably the 1st day) we arrange a planning meeting with involved leaders, with the following topics:

1. To discuss the recommendations in the 2011 mission report (chapters 1.2 and 1.3), to agree to – ~What is done, -or not; ~ Problems faced and the reason for these obstacles; ~ Evaluation of these recommendations and proposals for how to change them
2. Discuss the proposal for additional topics below, making a priority of their importance
3. Based on above discussions, to decide on a work program + job lists for the mission.

Proposal for topics, which could be included in the mission work

List of topics:

1. **The SPSS programs for FTS:** To discuss possible changes & improvements, agree to how to implement these modifications (*FTS staff to have a leading role*)
2. **Traing in SPSS programming:** Brief, ad-hoc courses may be arranged, where also a few other INE staff (not FTS) could participate. This course will use FTS applications / programs as examples
3. **The National Accounts (NA) and FTS Price Control System:** Based on the NA priority-products (see 2011 mission report chapter 2.5) we will decide how to fine-tune the FTS price controls, with the goal to improve the quality of the product-information
4. Based on 3. above; How to plan & implement an **import / export Price Index System**, which target to deliver imp/exp prices to the NA?
5. National Accounts & Balance of Payments: How to use FTS data to calculate figures on imports & exports **freight (transport) services?**
6. **The FTS Error Correction System:** An Error Correction Guide was made during the 2011 mission. How to develop this Guide further, in order to improve the work with the Error Lists, - and the quality of the FTS data in general
7. **The Customs – Priority for improvements actions:** ~Better periodicity of the data deliveries (from quarterly to monthly) ~Better Metadata updates (Customs Tariff – INE Product Catalogue, Customs Regime etc.) ~Better quality of data deliveries – Late declarations; Corrected declarations; missing & doublet declarations; Better data controls in Customs)
8. **The FTS EXTRA-data system:** How to develop further data collection directly from the importers & exporters?
9. Relations between the FTS system and the **Statistical Business Register (SBR):** How to harmonize the FTS importers & exports ID, in order to be able to link SBR-related information to the FTS data? Also, how to establish an **importer - exporter register** targeting FTS data correction
10. **The FTS Dissemination system:** What tables to develop further, and are there new tables which should be programmed?

Responsible expert

Main responsible for this mission is Mr. Hans Kristian Ostereng, SSB.

Execution of the work

The expert will depend on active participation from the FTS staff. The advice will be based on their demand of tasks, which target practical realistic problems to solve. The expert will respond to requests from the FTS staff and help to solve bottlenecks and give advice the staff on how to work efficiently.

The pieces of work to be done by the experts should be described briefly by the INE / FTS staff beforehand, to secure that the experts get well-defined jobs before the work starts.

Documentation of work done

The time spent has to be documented in Time Sheets, which has to be attached to the invoices. The experts will keep copy of communications which explains what type of work that has been done, time spent and result / output of the activity.

Period

See first page. The period & working days may be slightly modified according to work load and tasks.

Tasks to be done by INE / FTS to facilitate the work

- Based in this ToR and last 2011 mission report, the FTS staff will prepare for the 1st day meeting and make a list of tasks to be done during the mission, and sort these tasks according to priorities.
- During the whole work period prepare and supply the consultants with necessary documents and information

Benefactors of the mission

The beneficiary of the mission will be the Repartition of Foreign Trade Statistics Staff at Directorate of Sectorial and Enterprise Statistics and at the end all INE users.

Source of Funding

Project: MPD008-04-MPD-2008-0012 – Estadísticas Económicas Básicas
PAAO12 – 1.3.5 Estadísticas Económicas Básicas

Reporting

The consultants will prepare draft Technical Reports on request to document the progress done at any time interval during the Agreement period. A final draft report will be submitted to INE for final comments within one week of the end of the Agreement.

Approved by Azarias Nhanzimo INE/DESE

Day / /

Confirmed by Luis Mungamba, Contract Manager for the INE – Scanstat Contract

Day / /

4 APPENDIX 3. Proposals for Press-Release tables

A main table (Table 1) may include comparison between the two last years, with current month (or quarter) and accumulated figures as from January.

The grand totals for imports and exports are divided by the different sources. For the moment it might be useful to put a focus on the FTS data-sources, which also reflect certain data quality challenges.

Table 2 is a main product table by SITC (imports and exports separately).

Table 3 is a similar setup, but by main countries (trading partners by country of origin for imports and country of destination for exports).

Table 2 and 3 will follow mainly same column pattern as for the Press-Release table below.

REAL DATA - quarterly aggregates

Table 1. Foreign Trade Statistics of Mozambique.

Preliminary release. Quarter 1, 2011-2012. Million Meticaís. General trade 1)

	2 011	2 012	2012 / 2011
	Quarter 1	Quarter 1	% Change
Total IMPORTS	46 040	40 707	-12,0
By which 2): From Customs	28 680	26 074	-9,1
HS27 - Oil products + Electric Current	10 811	7 336	-32,0
Other products	6 549	7 297	11,4
Total EXPORTS	30 374	25 598	-16,0
By which 2): From Customs	12 203	9 444	-23,0
HS27 - Oil products + Electric Current	4 313	3 671	-15,0
Other products	13 858	12 483	-9,9
EXPORTS in per cent of IMPORTS	66	63	-4,5

Notes:

- 1) General trade means including warehousing and free zone trade (= all goods passing border physically)
- 2) **Select here products** which are special important for the MZ economy. These products might be substantially revised when more detailed information has been collected. HS means chapter in the commodity classification (Harmonized System used in the Customs Tariff).

Table 1. (EXAMPLE 2 MONTHLY figures, NB! Figures= just for illustration)

Foreign Trade Statistics of Mozambique						
Preliminary release. January - February 2011-2012. Million Meticaís. General trade 1)						
	Month			Aggregate Jan - month		
	February 2 011	February 2 012	Per cent Change	Jan- Feb 2 011	Jan- Feb 2 012	Per cent Change
Total IMPORTS	8 260	9 230	12	17 461	62 597	258
-Data based on Customs declarations	7 137	9 230	29	13 469	62 597	365
- HS27 - Oil prod + Electric Current 2)	1 106	0	-100	2 476	0	-100
- Other products 2)	17	0	-100	1 517	0	-100
Total EXPORTS	3 572	2 932	-18	8 663	5 395	-38
-Data based on Customs declarations	671	2 856	326	2 050	5 240	156
- HS27 - Oil prod + Electric Current 2)	821	0	-100	1 716	0	-100
- HS76 - Aluminium products 2)	2 000	0	-100	4 700	0	-100
- Other products 2)	81	76	-5	197	155	-21
EXPORTS as per cent of IMPORTS	43	32	-26	50	9	-82

Notes:
 1) General trade means including warehousing and free zone trade (= all goods passing border physically)
 2) Specification of products which are especially important for the MZ economy
 These products might be substantially revised when more detailed information has been collected
 HS means chapter in the commodity classification (Harmonized System used in the Customs Tariff)

5 APPENDIX 4. ERROR-corrections and FTS correction MANUAL

Metadata has not been updated properly in the FTS system. As a consequence, some error messages give wrong warning: The data IS correct, but the Metadata is WRONG, see results from error-list for 2nd quarter 2012 run, where message Un = the quantity unit in the commodity catalogue is NOT equal to the unit written in the data (declaration item).

During revision of the prog. 03, data controls, we decided to remove this type of control, since it is not needed, and because it compares text fields and not validity of metadata codes.

The error message 'Co' mean that commodity number is not found in the Commodity Catalogue = invalid. However, since the catalogue was not updated, the data was correct, but the catalogue wrong.

IMPORT ERROR FILES FOR SECOND QUARTER 2012							
UN = Unvalid quantity-UNIT code, Co = Unvalid commodity number							
Month	Total ERR_lines	of which: Lines_Un/Co	Share_% Un/Co of Total	Valid Un/Co	Non_Valid Un/Co	Share_% Valid of Un/Co	Share_% Valid of total Err lines
	1	2	3=2/1	4	5	6=4/2	7=4/1
April	756	113	14,9	111	2	98,2	14,7
May	4433	582	13,1	565	17	97,1	12,7
June	4051	504	12,4	498	6	98,8	12,3

High value items (Value > 49 999 999 MZM), comes to the ERROR lists, to be individually checked. It is important that all these items are verified by the FTS staff, either by proof in earlier data, or by conformation from the importer or exporter.

IMPORT ERROR FILES FOR SECOND QUARTER 2012 WITH HIGH VALUE						
Month	Total ERR_lines	Total ERR_amount	of which: Lines with V>	Share_% V> of Total	Total amount of V>	Share_% V> of Total ERR_amount
	1	2	3	4=3/1	5	6=5/2
April	756	8 318 717 828	7	0,9	8 080 077 975	97,13
May	4433	10 130 842 755	20	0,5	8 718 698 446	86,06
June	4051	33 808 995 115	38	0,9	32 228 032 330	95,32

6 APPENDIX 5. CUSTOMS new Single electronic Window (SeW) system

The Customs web address is: www.mcnet.co.mz

CUSTOM – Registration of user of Customs systems:

User Login

User name

Password

Remember me

[Forgotten password](#)

Log on

[Register now!](#)



Registration

Please log in MCNET portal to have personalized access information about their manifests, the arrival of vessels, **updates to the code of customs procedures and HS codes**, the state of the clearance process and still have technical assistance through the online chat as well as all the information available to the public.

*INE / FTS is recommended to check if there might be advantages to **apply for registered USER to have on-line access to changes in Customs metadata, eventually other privileges**. Maybe later on access to the declaration databases and also maybe data transfer might be arranged via this access.*

TABLE 02. Customs-Delete. Traders sorted by value

Importers and exporters sorted by VALUES (FOB exports, CIF Imports).

TOTAL value added for Imports; Customs-Delete files Jan-Aug 2012: 18 114 787 657 MZM		
TOTAL value added for Exports; Customs-Delete files Jan-Aug 2012: 9 082 192 277 MZM		
FLOW	Importer - exporter Name	Value MZM
EXP		
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TABLE 03. Customs-Delete. Exports of tobacco products

Importers and exporters trading tobacco products. The NB do not report by Customs Tariff lines (= INE commodity number). Also, they do not report in MZM, which is the value currency in Customs and in the FTS. It seems that the NB reports less trade than the Customs declarations sum up to.

24011000 - Tabaco nao destalado				NATIONAL Bank Reported USD
24012000 - Tabaco total ou parcialmente destalado . comno Customs-Delete files Jan-Aug 2012				
MONTH	Value, sum comno MZM 1)	EX Rate	USD	
01	247 875 652	27,18	9 119 781	14 984 034
02	66 268 606	27,54	2 406 267	11 280 316
03	85 103 027	27,62	3 081 210	3 622 273
04	records in other months			2 307 310
05	389 225 468	27,88	13 960 741	1 830 906
06	754 576 035	28,31	26 654 046	
07	725 457 432	28,33	25 607 393	
08	913 967 975	28,62	31 934 590	
TOTAL	3 182 474 195		130 508 378	34 024 839

Exchange rate is just a roughly estimated average monthly rate (Customs rates)

1) Biggest exporter, xxxx

REPORT FROM THE NB:

Valores em USD			
Exportações de Tabaco (I trim/12)	Valor	vol.(KGs)	
Janeiro	14 984 033,8	6 368 030,0	
Fevereiro	11 280 315,8	3 789 430,0	
Março	3 622 273,4	1 526 530,0	
Total	29 886 623,0	11 683 990,0	
<i>Fonte: Mozambique Leaf Tobacco</i>			
Exportações de Tabaco (II trim/12)	Valor	vol.(KGs)	
Abril	2 307 310,2	894 520,0	2,579384
Maio	1 830 906,0	675 180,0	2,71173
Junho			
Total	4 138 216,2	1 569 700,0	
<i>Fonte: Mozambique Leaf Tobacco</i>			
Exportações de Tabaco (III trim/12)	Valor	vol.(KGs)	ZERO
<i>Fonte: xxxxx</i>			
Not reported yet			
Exportações de Tabaco (IV trim/12)	Valor	vol.(KGs)	ZERO

8 APPENDIX 7. PRICE CONTROLS, activated for main commodity no

The improve the weight & quantity information in FTS data, we will activate the Price Control for the most important commodity numbers for 2011 data, see tables 1 and 2 below. These commodity numbers will get warnings in the ERROR lists, if over or below the calculated price limits.

A Middle-price for these commodity numbers will be in the Import & Export Price Master files. The price master files are produced by two SAS programs, based on 1st a HB method to remove extreme item-prices, then a price-variation analysis, which then will select commodities where prices are within certain limits. The complete list of these commodity numbers will be included in the price master files.

Then, the commodity numbers in table 1 and 2 are merged into the price master files. IF one commodity number match a number in the file already, the index-calculated middle-price will be used. IF NOT, an average middle-price will be set, based on other sources.

So, as a first step, ONLY these important commodity numbers merged into the price masters, will be activated for the price control. HOWEVER, for ALL commodity numbers in the master file, the weight and quantity will be imputed according to the middle-price, if price exceeds the price -upper or -lower limit.

Table 1. The most important commodity numbers for imports in the 2011 annual data file

Source prog: 991_AGG_Table_By-Months-Quarters-Year_01.sps

999_Table_AGGREGATES_Help_02_Average_PRICE-Products.sps

Year 2011							
TOTAL value added for this FILE: 182 513 919 954 MZM							
year	Flo w	Comno	value CIF MZM	Accumulates	Accumulated % share of total 2011	commodity_share	commodity-TEXT
2011	I	27101939	20 137 166 422	20 137 166 422	11,03	110,3	---- Destinados a outros usos
2011	I	76011000	17 809 603 952	37 946 770 374	20,79	97,6	- Alumínio nao ligado
2011	I	27160000	9 146 663 229	47 093 433 603	25,80	50,1	Energia eléctrica (Posição Faculta
2011	I	27101139	5 484 349 879	52 577 783 482	28,81	30,0	----- Outras
2011	I	10063000	4 001 831 400	56 579 614 882	31,00	21,9	- Arroz semibranqueado ou branqueado, mesmo polid
2011	I	10019090	3 806 269 654	60 385 884 536	33,09	20,9	-- Outros
2011	I	84295100	3 776 137 153	64 162 021 689	35,15	20,7	-- Carregadoras e pás carregadoras, de carregamen
2011	I	73089000	3 074 357 518	67 236 379 207	36,84	16,8	- Outros
2011	I	30049000	2 989 700 626	70 226 079 833	38,48	16,4	- Outros
2011	I	84314300	2 725 024 363	72 951 104 196	39,97	14,9	-- Partes das máquinas de sondagem ou de perfuraç
2011	I	15111000	2 244 993 281	75 196 097 477	41,20	12,3	- Oleo em bruto
2011	I	87042190	2 124 293 252	77 320 390 729	42,36	11,6	--- Outros
2011	I	76031000	2 080 000 000	79 400 390 729	43,50	11,4	- Pó de estrutura nao lamelar
2011	I	87042110	2 067 477 808	81 467 868 537	44,64	11,3	--- De cabine dupla e caixa aberta c/ cilindrada
2011	I	87042200	2 065 687 033	83 533 555 570	45,77	11,3	-- De peso bruto superior a 5 toneladas, mas nao
2011	I	27101921	1 934 302 030	85 467 857 600	46,83	10,6	----- Carboreatores (jet fuel)

Source data in EXCEL file: TABLE9991-001_IMPORTS-EXPORTS_MASTER-files_2012.xls

Source prog.: Price master creation: 21-import_remove_extremes_HB-method_IMP.sas

22_import_make_pricemaster_IMP.sas

Source prog.: Price master to SPSS: 14_PRICEmaster_into_SPSS.sps

Table 2. The most important commodity numbers for exports in the 2011 annual data file

Year 2011							
TOTAL value added for this FILE: 105							
201 901 179							
Year	flo	comno	value	Accumulates	Accumulated % share of total 2011	commodity_share	commodity-TEXT
2011	E	76041000	39 442 321 059	39 442 321 059	37,49	374,9	- De alumínio nao ligado
2011	E	27160000	8 690 000 000	48 132 321 059	45,75	82,6	Energia eléctrica (Posição Faculta
2011	E	76011000	8 035 006 076	56 167 327 135	53,39	76,4	- Alumínio nao ligado
2011	E	08030000	5 189 963 707	61 357 290 842	58,32	49,3	Bananas, incluindo os plátanos(Plantains), fresca
2011	E	24012000	5 004 132 361	66 361 423 203	63,08	47,6	- Tabaco total ou parcialmente destalado
2011	E	27111100	4 680 244 550	71 041 667 753	67,53	44,5	-- Gás natural
2011	E	26140000	3 511 490 580	74 553 158 333	70,87	33,4	Minérios de titânio e seus concentrados.....
2011	E	44072900	3 404 646 655	77 957 804 988	74,10	32,4	-- Outras
2011	E	17011100	2 454 465 500	80 412 270 488	76,44	23,3	-- de cana Nota: Sujeito a sobretaxa variável
2011	E	88024000	1 700 000 000	82 112 270 488	78,05	16,2	- Avioes e outros veículos aéreos, de peso superi
2011	E	89069000	1 700 000 000	83 812 270 488	79,67	16,2	- Outras
2011	E	08013100	1 697 881 074	85 510 151 562	81,28	16,1	-- Com casca.....
2011	E	26151000	1 441 579 650	86 951 731 212	82,65	13,7	- Minérios de zircónio e seus concentrados
2011	E	27101939	1 318 027 223	88 269 758 435	83,91	12,5	----- Destinados a outros usos
2011	E	03061300	1 102 137 869	89 371 896 304	84,95	10,5	-- Camaroes

1st rows: Price Master for EXPORTS, - Main commodity numbers are merged (STDvar_class= X)

no_items > 6 and price_factor_medmean <1.34 and price_factor_uv <1.34 and sum_value > 9999

COMPARE which of the 2011 comno's which are found in the Price Master file

price_factor_uv = middle_price / uv_price STDvar_class= X --> means IN 2011 Aggregate most important commodity

comno	STDvar_class	unit	no_items	sum_quantity	sum_value	middle_price
03037910	D	KG	11	268 260	9 737 327	36,85
03061100	C	KG	61	181 858	71 789 965	359,22
03061300	X	KG	232	3 811 130	831 002 926	207,78
07049000	A	KG	11	2 820	1 506 949	536,77
07139000	C	KG	36	134 316	60 183 252	409,99
08013100	X	2011				25,0
08021200	D	KG	31	574 246	61 550 203	105,33
08030000	X	2011				67,0
11010000	A	KG	185	37 303 769	598 880 175	16,44
12072010	A	KG	12	5 259 900	21 728 650	4,13
12072090	B	KG	169	9 024 807	52 894 929	6,56
17011100	X	KG	32	242 499 999	2 410 424 685	10,49
17031000	C	KG	521	21 163 000	72 231 929	3,21

Price master continue (rest of the columns in the catalogue)

comno	uv_price (Unit value price)	mean_price	median_price	Med/mean	p_fact_uv
03037910	36,30	36,41	37,83	1,01	1,02
03061100	394,76	341,28	341,61	1,11	1,10
03061300	218,05	209,22	196,09	1,05	1,05 283,78
07049000	534,38	536,39	539,54	1,00	1,00
07139000	448,07	435,06	346,83	1,11	1,09
08013100					13,06 (24,49)
08021200	107,18	107,83	100,98	1,02	1,02
08030000	Bananas, incluindo os plátanos(Plantains), fresca				67,00
11010000	16,05	16,64	16,63	1,02	1,02
12072010	4,13	4,13	4,13	1,00	1,00
12072090	5,86	7,28	6,54	1,11	1,12
17011100	9,94	11,00	10,53	1,05	12,27 (9,82)

