TRAINING MANUAL ON THE COMPILATION

OF

INTERNATIONAL TRADE INDICES

USING

EUROTRACE WINTIM

TRADE INDEX MODULE

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This *Manual on The Compilation Of International Trade Indices using Eurotrace WinTim Trade Index Module* has been prepared to assist staff of statistical offices and other data compilers desirous of using the WINTIM module of the EUROTRACE application for management of external trade statistics, to construct Export and Import Indices of Average Unit Value.

The Manual will also be used as the main instrument to facilitate the training of participants of the **CARICOM WORKSHOP ON MERCHANDISE TRADE STATISTICS** organised by the CARICOM Secretariat to take place in St. Vincent and the Grenadines from 26 January – 5th February, 2014.

The Manual provides a comprehensive explanation of the procedures that should be followed when attempting to compile International Trade Indices using the methodology for Indices of Average Unit Values (IAUV). Export and Import Price Indices have been recommended to be compiled using Sampling methodology. Indices of Average Unit Value though admittedly less accurate than the method of sampling of commodities and establishments are easier to calculate and given the human and financial resource constraints facing statistical offices of CARICOM would be more feasible to apply.

The movement by customs administrations within the member states of the region towards the adoption of ASYCUDA World and training and technical support initiatives provided by the Regional Statistics Programme of CARICOM have led National Statistical Organisations in CARICOM over the past five years to install the EUROTRACE Application for the processing of Trade Statistics. The integrated trade software suite includes a relational database management system for processing customs declarations and the COMEXT application as a data management tool to generate reports and for the purpose of data dissemination.

The Win Tim application is the latest addition to the suite of software. The Windows Trade Index Module application interacts with the Eurotrace software to manipulate the detailed data in the Eurotrace Domain for the purpose of generating Indices of Average Unit Value of Exports and Imports. Indices of Average Unit Values are important in the analysis of Trade Statistics.

The Training Manual provides a step by step guide to users of the WIN Tim Module. The manual carefully explains using graphic screenshots, the processes used by the software developers to arrive at Indices of Average Unit Values. The addition of the WinTim module to the Eurotrace application would facilitate timely provision of statistics for analysis of international trade patterns and would also facilitate the timely rebasing of the series when an assessment has determined that a base year revision is necessary.

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CHAPTER ONE

1. INTRODUCTION

The WIN TIM Module of the Eurotrace software extends the range of statistics available to be produced by the integrated EUROTRACE Software developed for management of external trade statistics by EUROSTAT, the Statistical Office of the European Community.

EUROTRACE is a modular styled software that captures and manipulates data extracted from customs declarations in a variety of formats, transfers the source data into a specially designed relational database where several data management operations are performed to develop a 'clean file' that has been carefully evaluated and validated. The clean detailed dataset is then available for use by the other modules of the integrated application.

COMEXT is the application that allows the user to query the EUROTRACE database, retrieve data, generate reports and disseminate statistical information.

The WINTIM Module interfaces with the EUROTRACE detailed data file and uses the detailed data file specifications to create a compatible, specially structured domain that the WinTim application then manipulates to generate trade indices.

The Training Manual takes the user step-by-step, through each of the command options of the main menu and the underlying sub-menu commands that perform functions in the process of creating Trade Indices.

The Training Manual describes the minimum system requirements and procedures involved in the installation of EUROTRACE and its modules including the WinTim module. A general overview of the WinTim Menu Bar is provided, before getting into a detailed presentation of each command option and giving an explanation of their operation. Basic Index Number Theory and Construction is discussed, including Unweighted and Weighted Indices and the Laspeyres, Paasche and Fisher Indices. The manual examines each menu item in detail and using screen shots describes the step by step process for computing trade indices using the WinTim Application.

CHAPTER TWO

2. GETTING STARTED

2.1. Recommended Requirements

Pentium IV 2.5 to 4.0 GHz or AMD DualCore 3800+ processor

Microsoft Windows XP / Windows7 or Windows 8

4 GB of RAM

400 MB of available hard disk space (not including the space required for databases as this could vary).

To make full use of the data stored in the WinTim database, we recommend that you have a DBMS, spreadsheet, and /or multidimensional browser application installed. For example: Microsoft Access 2010, Microsoft Excel.

2.2. Installation of WinTim

To install WinTim, the file "setup_WinTIM_Win7_1_0_5.exe" must be executed. Copy the "exe" file on the c drive on the computer and double click on the file to launch the installation.The following installation wizard will display to enable the installation of WinTim program:

The Next button will display the licence Agreement:
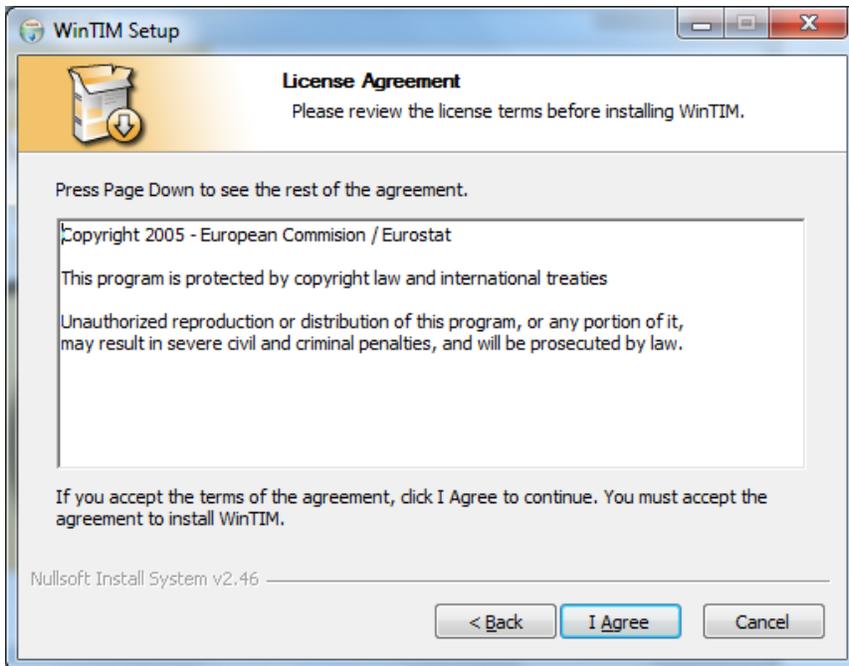
Users must click on "I Agree" button to start the installation by selecting a destination folder. By default, the installation will be done under c:\WinTim (a dedicated folder will be created).
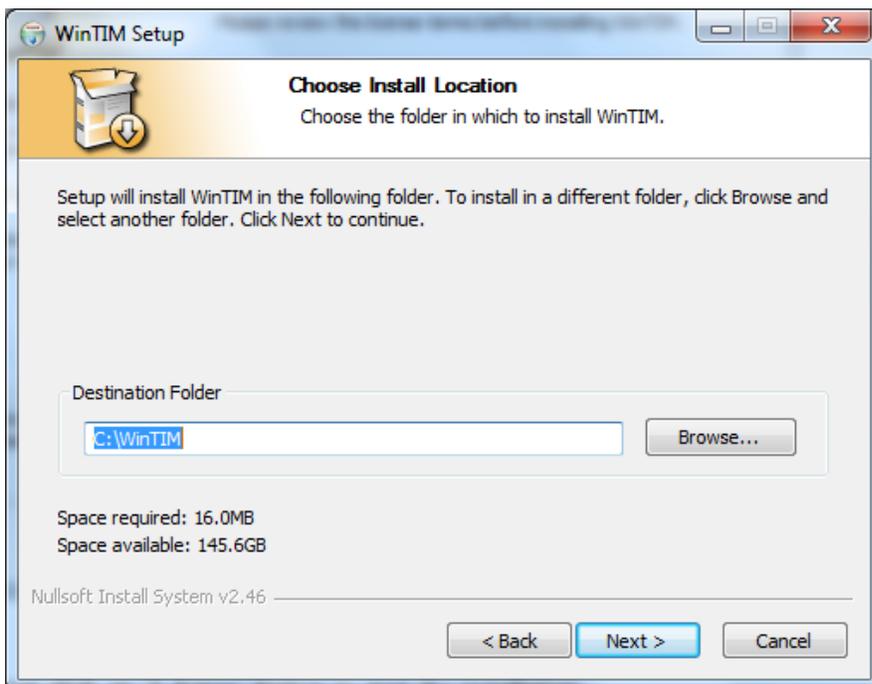
The Browse button enables the user to change the installation folder.

Clicking on the Next Button will enable the user to select the start menu folder for the WinTim shortcut:
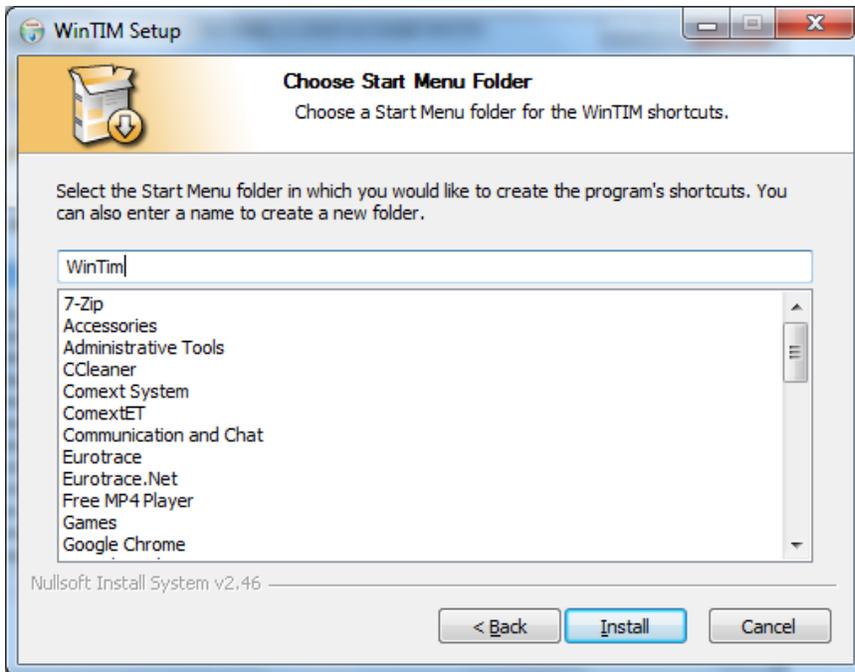
The Install button will launch the installation of the program and the creation of the subfolders.
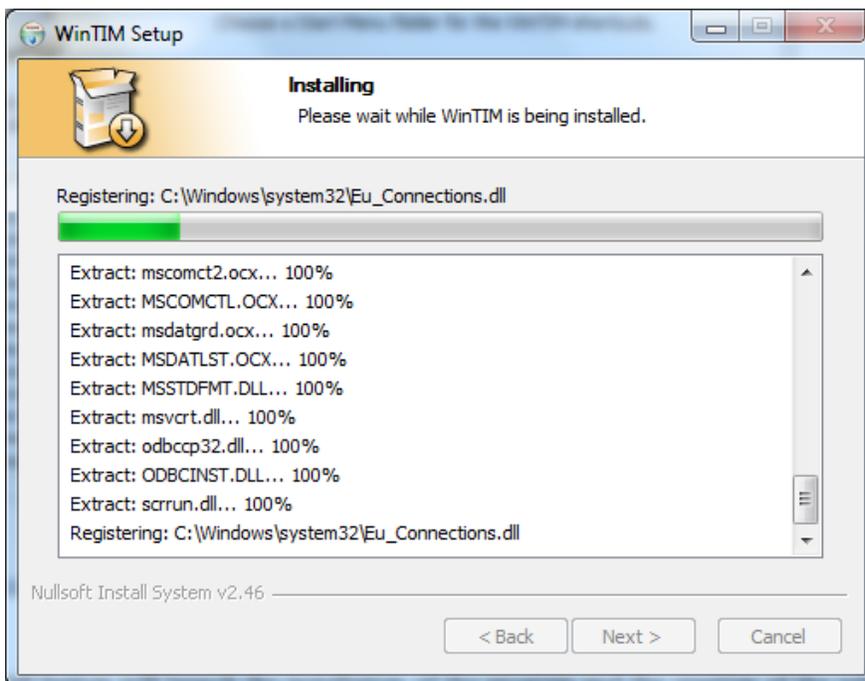
At the end of the installation, the following message will be displayed:
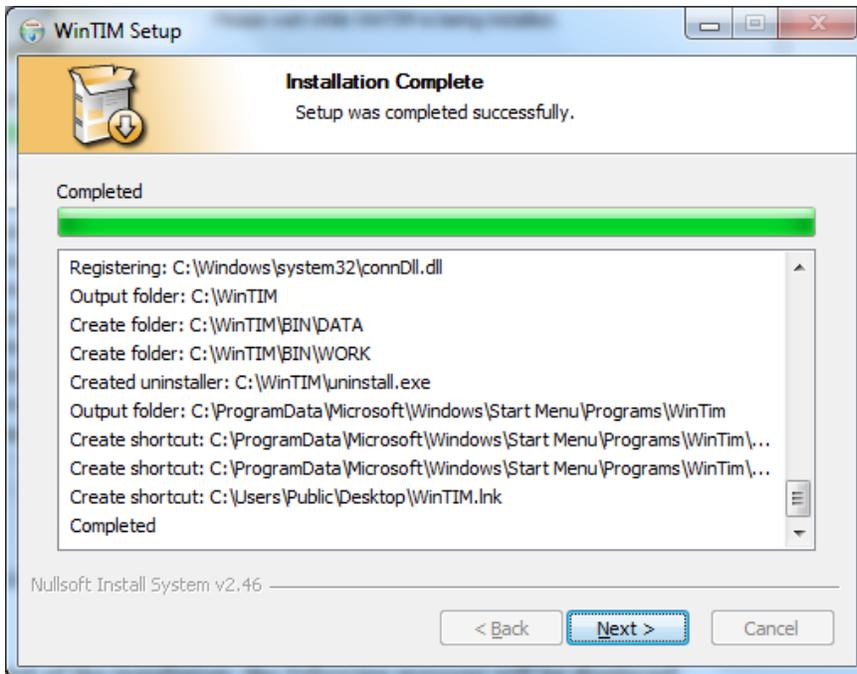
Clicking on Next button will enable to close the installation program (and to launch WinTim):

CHAPTER THREE

## 3. UNDERSTANDING THE WINTIM MENU BAR
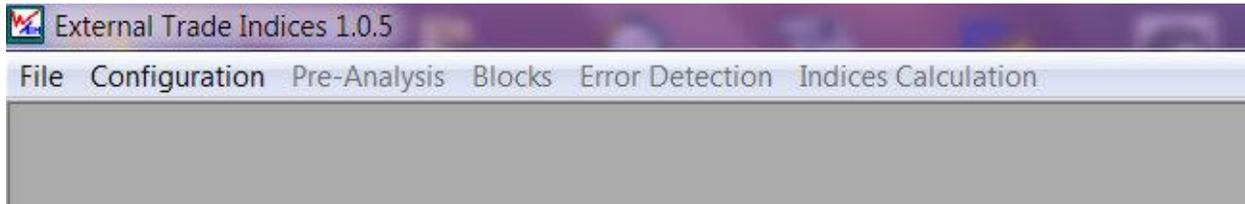
The WinTim Menu Bar provides the set of command options that are available to the user in the process of creating Trade Indices. The command buttons of the Top level or Main menu have been arranged sequentially according to the stages in the process of the calculation of Index Numbers. Selection of a button on the Main Menu may reveal to the user a sub-menu of actions that are required to be performed before selecting the next button in the sequence on the Main Menu.

3.1. The Main Menu of WinTim includes six (6) buttons

1. FILE
2. CONFIGURATION
3. PRE-ANALYSIS
4. BLOCKS
5. ERROR DETECTION
6. INDICES CALCULATION

The options on the Main Menu describe the order of the set of actions that have to be performed in order for the Indices to be calculated. In several instances the user will not be able to proceed to the next stage of the process until key actions of the prior stage have been completed. In other words the user will not be permitted to skip steps until actions of the prior stage have been performed at least once.

Let us now look at the sub-menu of commands that are included under each item of the Main Menu.

3.1.1. File
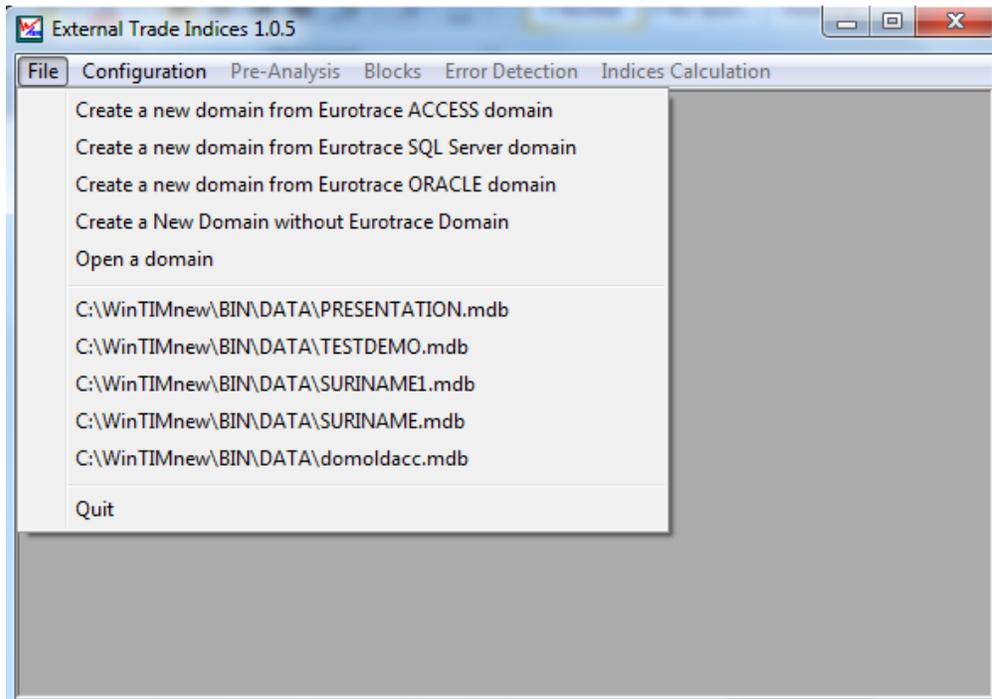
On selecting FILE on the Main Menu of WinTim the user is required to choose from the following:

1. Create a new domain [WinTim domain] or
2. Open a WinTim domain which was created previously, or
3. Quit

3.1.2. Create a new domain

You have the option to create a New domain from a EUROTRACE domain (Access, SQL Server or Oracle) source file or to Create a New domain without using a EUROTRACE domain, that is by using some other file structure.

### *3.1.3. Open a WinTim domain which was created previously*

Where the user prefers to open a previously created WinTim domain then, the path and filename of all previously created WinTim domains are listed, giving the user the option to choose a file from within the list provided.

3.1.4. Quit

Selecting Quit will exit the FILE option and return to the Main Menu.

3.2. CONFIGURATION
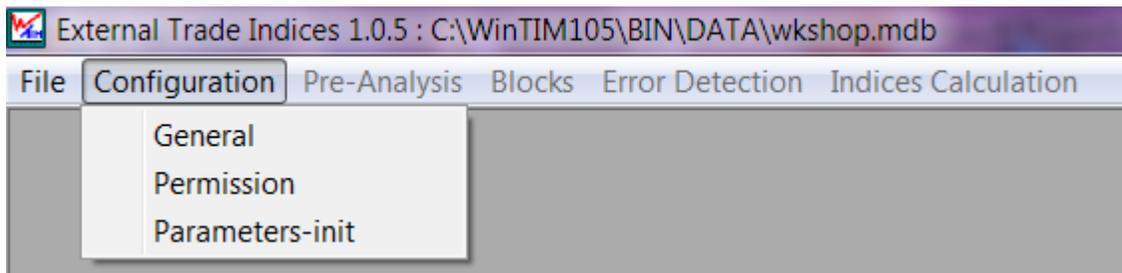
The CONFIGURATION item of WinTim's Main Menu is activated following the decision to Create or Open a domain. The Configuration option includes 3 sub-menu items which will configure WinTim domain to interact with the Eurotrace domain where the Detailed Dataset is located:

General

Permission

Parameters-init

The *General* option identifies the EUROTRACE Detailed Dataset on which the calculations of the WinTim domain will be based. It also sets up the Nomenclatures or Classifications Tables in the EUROTRACE domain that would be used in the WinTim domain. These include Flow Nomenclatures and Product Nomenclatures. Key Field names from the Detailed Dataset for the Value, Net Weight, and Quantity variables are also setup under the General option.

The **Permission** option allows the System Administrator to set the permissions and passwords for other users of the application and by so doing restrict or grant access to users to perform certain actions. The admin has full access to all functions, however different levels of restrictions may apply to different users. This option is not developed in the WinTim application.

The **Parameters-init** option customises the WinTim domain in preparation for actions that would be subsequently performed. Initialisation Parameters requiring attention include:

Dates – the Beginning and Ending Dates and the Year within the data interval, which would be chosen as the Reference or Base Year for index calculations.

Blocks Definition – sets the minimum number of dataset lines that are represented in a block and the percentage of trade to be covered by a block.

Pre-Analysis – the parameters to be setup here, which would be activated when the Pre-analysis actions are undertaken include,

- the Period (Year);
- the minimum value allowed for the Correlations between Value and Net Mass and Value and Supplementary Quantity;
- the minimum number of entries in the dataset per product (commodity) required for calculation of correlations and
- the minimum number of different months in which a product that would be used in the calculation of the index would appear.
- The values set for these parameters are important as they determine the number of records and the percentage of trade that would be used in the calculation of the Unit Value Indices.

Error Detection - A parameter for the maximum interval allowed between the values and the median (%) is set here.

Transcodification Flow – here the parameters that are set are the Eurotrace codes and accompanying labels that correspond to the Tim Codes for Import and Export Flows. These codes must be identical to the Flow codes that exist in the selected Eurotrace domain.

Pre-Analysis Sub-menu
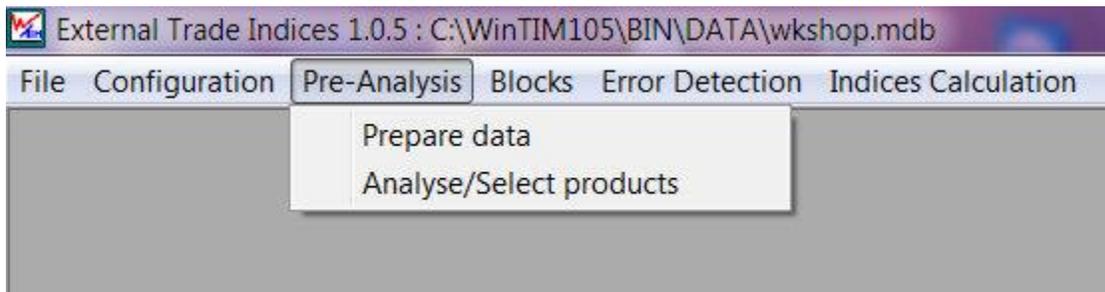
The Pre-Analysis Sub-Menu has 2 options *Prepare Data* and *Analyse/Select products*

Prepare Data uses the parameters set in the Parameters-init option of the CONFIGURATION item of the Main Menu. The pre-set parameters are used to analyse the products of the EUROTRACE Detailed Dataset and to select from the detailed dataset a sub-set of the total products that meet and satisfy the pre-set parameters. The selected sub-set of products, referred to as the *"Included Products"* are those products that have been selected to be used for further processing and calculation of indices.

Analyse/Select Products permits manual data analysis of the *Included Products*. The user can select a product using the product code and the selected product moves to the top of the list of products in the data set revealing all the relevant data associated with that product. Analysis of the data characteristics allows the user to decide whether to leave the *Exclude Product* Status as it is in the data file or to manually adjust the Exclude Product status code. An Exclude Product Code – Y means the product is marked for exclusion while an Exclude Product Status Code –N means do not exclude therefore, the product is marked to be included in the set of products to be used in the calculation of the indices.
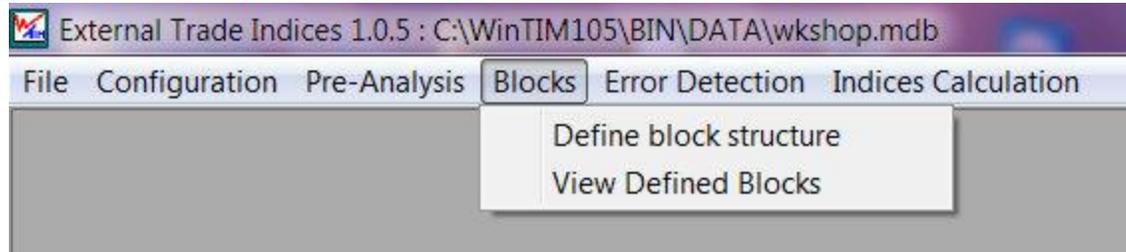
BLOCKS SUB-MENU

The Blocks option of the Main Menu groups the individual records identified for inclusion. The BLOCKS sub-menu consists of 2 items

Define block structure – specifies the dataset dimensions the user would use for definition of blocks, the beginning and ending dates, the percentage of trade covered by a block and the minimum percentage of trade represented by a product block. These parameters are used in the creation of blocks. The Flow and Product dimensions are default Keys used in definition of blocks.

View Defined Blocks

Based on the block structure set by the user, View defined Blocks shows on-screen information for all blocks produced. The information includes the Flow (Exports or Imports), the block ID. The partner country of trade (usually the main partner and all other partners grouped together). The number of lines of data recorded for the main partner country and the grouped partner country. The sum of Customs Value of the main partner country and the grouped partner country.

3.5. ERROR DETECTION

Selecting Error Detection opens the screen below, where the user is required to set parameters and other information about the Type of Indices Chain Indices or Fixed Indices to be calculated by the Win Tim application before the Run Calculations command button can be operated.
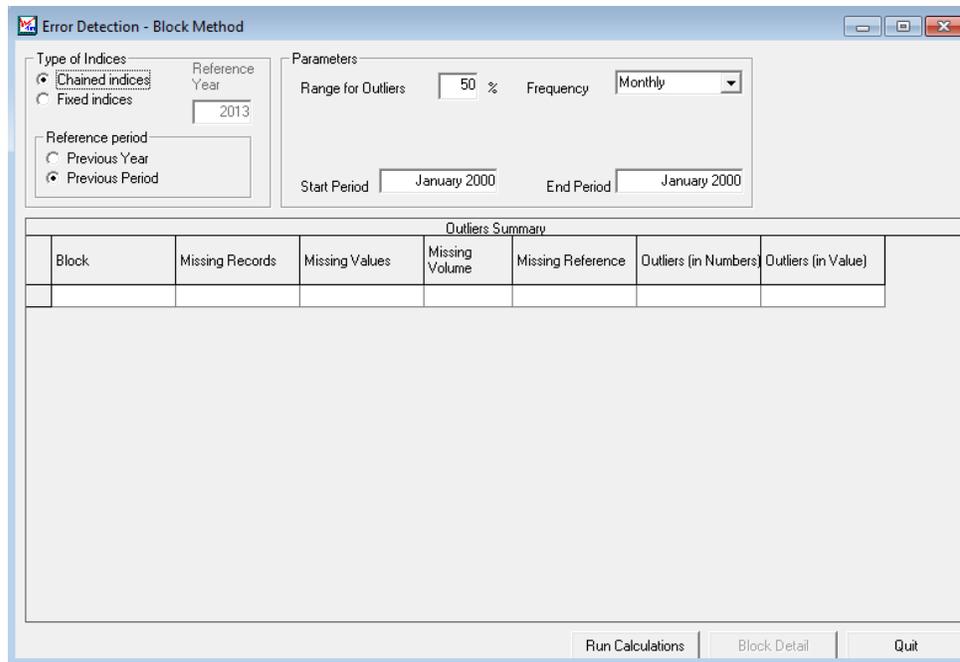
3.6. INDICES CALCULATION
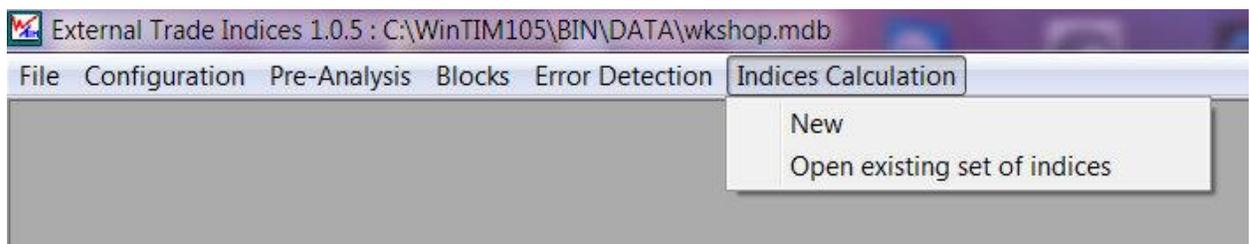
Indices Calculation is the final item in the WinTim Main Menu.

The Indices Calculation Sub-Menu includes 2 items *New* and *Open existing set of Indices*.

New – allows the User to calculate New Trade Indices. The Indices created may be Chained Indices or Fixed Indices. The user can also select Unit Value or Volume indices of the Laspeyres, Paasche or Fisher Type. The user sets the Reference Year and other parameters including Range for Outliers, Frequency of Reporting (Monthly, Quarterly, Annually) and the Date Range of the data to be used in index calculation.

Open Existing Set of Indices – this sub-menu item allows the user to open an Index Calculation which would have been created previously from among those stored in the WinTim Data bank. The user has the option to save the index or View it in Excel.

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CHAPTER FOUR

4. Basic Index Number Theory and Construction

In this Chapter we define an index number, explain different types of index numbers and how they are constructed and some of the uses to which they may be put. The computations of Indices of Average Unit Value are then examined.

It is important that we understand some basics of index number theory and construction. The process of index number computation may involve the preparation, manipulation and editing of large data sets. Software applications like WinTim reduce the effort involved in the manipulation of data, especially from large datasets such as Import and Export data files, however, it is important that the user of the application understand the processes involved so that incorrect or questionable results can be identified and refinements or amendments to the underlying parameters and data records can be made and more acceptable and accurate indices can be re-estimated.

An Index number is a statistical measure that is designed to show the magnitude of changes in a variable or a group of variables. It is calculated by finding the ratio of the value of the variable(s) in the current period relative to the value of the same variable(s) in a base or reference period. The result is multiplied by 100 to express the index as a percentage. In index number terminology the result is referred to as a *Relative.*

Index Numbers are usually prepared Monthly, Quarterly or Annually depending on the characteristics of the variable of interest, the availability and ease of collecting and processing the data and the purpose for which the index is being constructed.

Example 1

Items	Aug'14	Sep'14	Oct'14	Nov'14	Dec'14
	P_0	P_1	P_2	P_3	P_4
Item 1.1	9.50	12.00	11.76	12.35	12.59
Index for 1 item		126.32	98	105	102
		$\frac{12.0}{9.5} \times 100 = 126.32$	$\frac{11.76}{12.00} \times 100 = 98.00$	$\frac{12.35}{11.76} \times 100 = 105.00$	$\frac{12.29}{12.35} \times 100 = 102.00$
		$\frac{P_1}{P_0} \times 100$			

There are three main types of Indices:

- Price Indices, which measure the percentage change in the price of a variable from one period to another.
- Quantity or Volume Indices (Qty/Vol) which measure the percentage change in the quantity of a variable from one period to another.
- Value Indices (Price x Qty), which measure the percentage change in the value (price x quantity) of a variable from one period to another.

4.2. Examples of Types of Indices

The Consumer Price Index or Retail Price Index is one well known example of a Price Index.

The Index of Domestic Production is an example of a Quantity or Volume Index.

The Index of Retail Sales is an example of a Value Index.

There are other examples of Price, Quantity or Value Indices which may be more familiar.

4.2.1. Uses of Index Numbers

Index Numbers are put to a variety of uses. They are used to monitor the short term performance of the economy and for this purpose are usually reported monthly or quarterly. Consumer Price Indices are constructed to measure the rate of inflation in the prices of a standard basket of goods to the average consumer. The inflation rate is carefully monitored by Government, the Unions and Employers. It is the basis on which Interest Rate adjustment in monetary policy and the level of wage negotiations including Cost of Living Allowances (COLA) are made. An important use for the computation of Index numbers would be to estimate Constant Price Estimates of GDP and other national accounting aggregates by deflating Current Price Estimates of the GDP using appropriate price indices or by extrapolating from a base or reference year using volume indices only.

4.2.1.1. Simple (Unweighted) Aggregative Index

Example 1 above demonstrated the calculation of a Percentage Relative for 1 item. We may be interested in calculating an Index for a Group of Items. Let us look at an example of a Simple Aggregative Index. The Simple Aggregative Index expresses the sum of the values of the items of the current period as a percentage of the sum of the values of the items in the base or reference period. This is illustrated in Example 2.

Example 2

The Simple Aggregative Index for a Group of items.

Items	Aug'14 P_0	Sep'14 P_1
Group 1		
Item 1.1	9.50	12.00
Item 1.2	7.50	7.00
Item 1.3	5.25	3.95
Item 1.4	19.00	22.25
Group 1 (Total)	41.25	45.20
Index		**109.58**

$$\sum \frac{P_1}{P_0} \times 100$$

4.2.2. Simple Average of Relatives Method

We may also use the Simple Average of Relatives Method. This method calculates the Price Relative of each item and then computes the average of the price relatives. The average may be computed as the Arithmetic Mean, the Geometric Mean or the Median of the price relatives.

Example 3

Simple Average of Relatives (Unweighted)

Items	Aug'14 P_o	Sep'14 P_1	P_1/P_o	P_1/P_o x 100	% change
Group 1					
Item 1.1	9.50	12.00	1.26	126.32	26.32
Item 1.2	7.50	7.00	0.93	93.33	-6.67
Item 1.3	5.25	3.95	0.75	75.24	-24.76
Item 1.4	19.00	22.25	1.17	117.11	17.11
Group 1 (Total)	41.25	45.20	4.12	411.99	11.99
Group 1 Index				**103.00**	**3.00**

$$\frac{\sum \left(\frac{P_n}{P_0} \times 100\right)}{N}$$

The Simple Aggregative Index Method and the Simple Average of Price Relatives Method are both Unweighted measures where no consideration is given to the relative importance of the individual item when measuring the magnitude of the change.

The Simple Unweighted Aggregative Index can be subject to different influences which may bias the results. Items with large absolute or percentage increases exert a more significant influence on the result than may be justified in terms of relative importance to the user.

DATA 2011 - 2014

Items	2011		2012		2013		2014		P_1/P_0	P_2/P_0	P_3/P_0
	Price	Quantity	Price	Quantity	Price	Quantity	Price	Quantity			
	P_0	Q_0	P_1	Q_1	P_2	Q_2	P_3	Q_3			
Group 1											
Item 1.1	10.50	75	14.00	70	13.00	85	15.25	100	133.33	123.81	145.24
Item 1.2	9.50	300	10.00	360	11.50	400	12.00	450	105.26	121.05	126.32
Item 1.3	7.25	625	6.95	740	7.50	695	8.40	725	95.86	103.45	115.86
Item 1.4	21.00	250	22.25	225	24.00	240	24.75	325	105.95	114.29	117.86
	48.25		53.20		56.00		60.40		440.41	462.60	505.27

UNWEIGHTED   INDICES COMPARED

Years	Simple Aggregate Index	Simple Average of Relative Indices	Median of Relatives Index	Geometric Average of Relatives Index
2011	100.00	100.00	100.00	100.00
2012	110.26	110.10	105.61	109.27
2013	116.06	115.65	117.67	115.37
2014	100.00	126.32	122.09	125.81

4.2.3. Weighted Aggregative Indices

To address the bias weights are introduced to give consideration to the relative importance of the individual items in the Group. The weights used in the index number computation may be weights from the base period or alternatively they may be weights from the current period. Base period weights remain unchanged in each period that the index is computed. When current period weights are used, the weights are updated in each period that the index is computed.

Indexes are usually aggregated by multiplying the percentage change of an item between two periods by an indicator of its proportionate weight or relative importance. This operation is repeated for each item and their products are then summed and divided by the sum of weights. The result is the Weighted Aggregative Index – one number that represents the average change for all items comprising the particular group.

Example 4

Weighted Average of Relatives

Items	Aug'14 P_o	Sep'14 P_n	P_n/P_o	P_n/P_o x 100	**Weight**	Price Relative x Weight	Group Index
Group 1							
Item 1.1	9.50	12.00	1.26	126.32	56	7073.68	
Item 1.2	7.50	7.00	0.93	93.33	38	3546.67	
Item 1.3	5.25	3.95	0.75	75.24	82	6169.52	
Item 1.4	19.00	22.25	1.17	117.11	16	1873.68	
Group 1			**4.12**	103.00	**192.00**	**18663.56**	**97.21**
Group 1				103.00	**192**	**18663.56**	**97.21**
Group 2				95.23	**258.00**	**19720.00**	**76.43**
Group 3				106.11	**350.00**	**40265.00**	**115.04**
Group 4				102.35	**200.00**	**30525.00**	**152.63**
All Group Index					**1000.00**	**109173.56**	**109.17**

The same procedure is used to calculate the Group Index for each of Groups 2, 3, and 4. The Index for All Groups is then calculated as the sum of the Weighted Relatives divided by the Sum of the Weights. The Index for All Groups based on the data above is **109.17**

CHAPTER FIVE

5. UNIT VALUE INDICES

Unit Value Indices are a special category of indices that have been compiled from detailed export and import merchandise trade data usually made available from the administrative records of the Customs Administration.

Unit Values are the quotient of the Total Value of Exports or the Total Value of Imports divided by the Quantity of the commodity or group of commodities exported or imported respectively. *The Unit Value is an Average Price* and not an actual traded price quotation for an exported or imported commodity.

Indices of Average Unit Value (IAUV) are not genuine price indices compiled from original commodity prices. The changes that are observed between one period and another in the Indexes of Average Unit Value may be due simply to the composition or mix of the items traded from one period to another. The products monitored in Price Indices are defined according to very detailed specifications, which are selected to ensure that as far as is practicable, the same commodities are measured each period. In the case of international trade, the commodities on which the Unit Values are computed from period to period are not based on carefully specified homogenous commodities but a heterogeneous mix of items in terms of their specification, country of origin or destination, quality dimensions and transaction prices. Of course the degree of homogeneity or heterogeneity will vary from commodity to commodity within the same tariff classification. Nonetheless, Unit Value Indexes are constructed and used as proxy price indices because operationally they are easier to compile at relatively lower unit costs.

CHAPTER SIX

6. THE FILE OPTION

Chapter 1 introduced the options in the WIN TIM Main Menu and the SUB-MENUS under them. This Chapter and the Chapters that follow explain the step by step procedures that must be followed to generate Export and Import Indexes of Average Unit Value.

FILE

6.1. Create a new Domain

The creation of a WINTIM Domain begins by selecting the **FILE** option on the Main Menu.

FILE

Selecting the FILE option on the Main Menu opens a Dropdown menu where the user is asked to either *Create a New Domain* from A EUROTRACE domain, *Open an Existing Domain* or *Quit FILE* and return to the WINTIM Main Menu.

Where a new WINTIM domain is to be created the user will select *Create a New domain from EUROTRACE.*

WINTIM allows the User to Create a New WINTIM Domain from a EUROTRACE Domain or from another Domain not developed with EUROTRACE. The EUROTRACE Domain may have been developed using MS Access or it may have been an SQL Server Domain.

SELECT *Create a new domain from EUROTRACE ACCESS Domain*

WINTIM opens the following screen
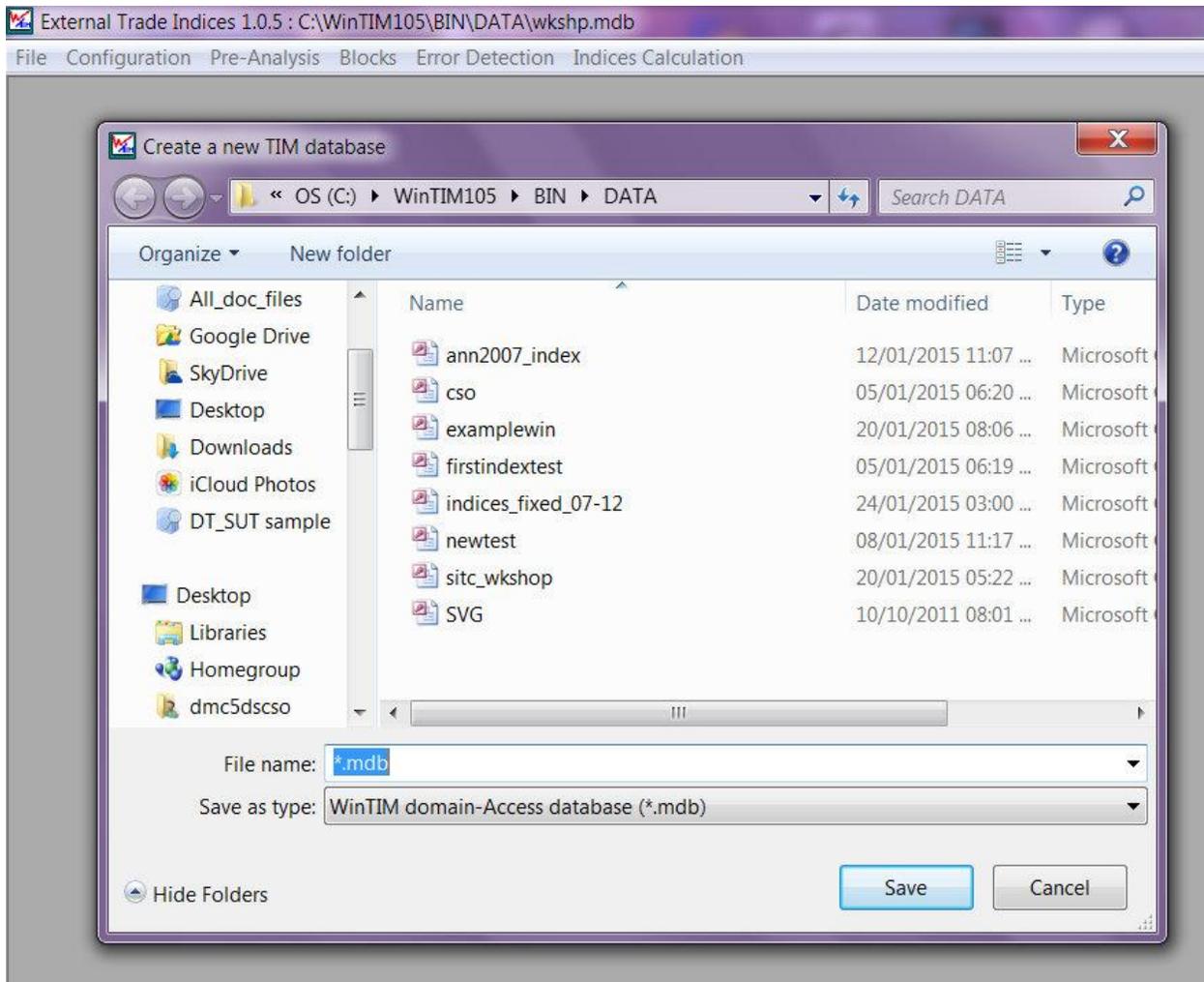
In the Filename: dialog box the user enters the name of the New WinTim domain that is to be created [wkshp.mdb] and clicks the **SAVE button.**

Type into the File name window the Name of the New WINTIM Domain **[wkshp.mdb]** that is being created. Take note of the Path to the new WINTIM Domain that is at the top of the screen

CLICK SAVE

If in creating a new domain from a Eurotrace domain you enter same name as a WINTIM domain that was previously created, a message *"File exists already"* will appear on screen. CLICK OK.

You will be returned to the Main Menu where you will have to restart the process again.

A screen appears that asks about the version of MS ACCESS that will be used.
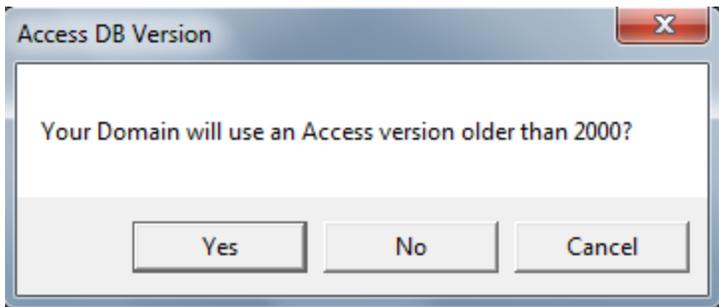
 If the version of MS Access to be used is older than MS Access 2000, select the YES Button.

If the version of MS Access to be used is **not** older than MS Access 2000, select the NO Button.

A new screen appears that requires the user to "Select the Eurotrace Domain".
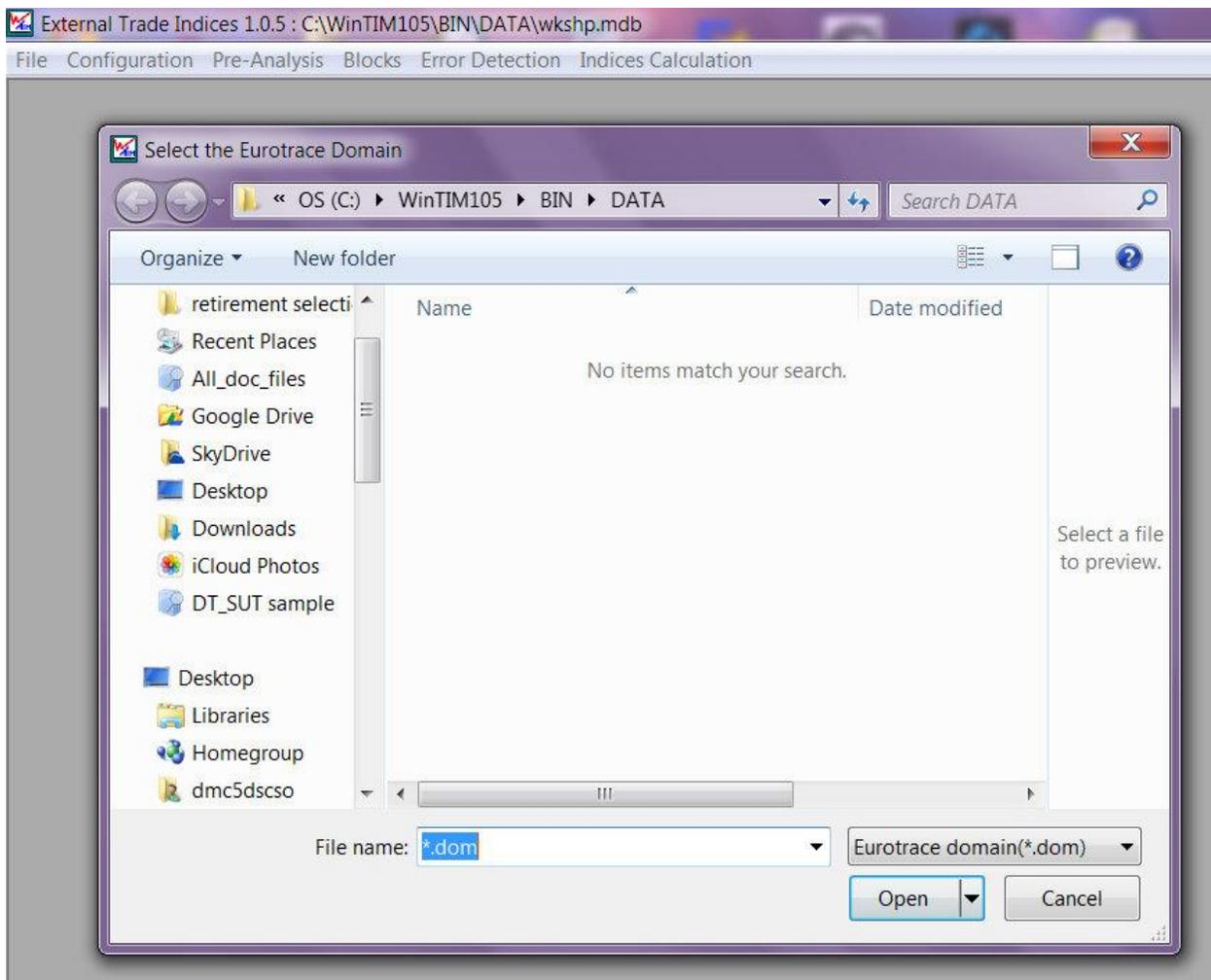
Navigate to the path where the Eurotrace Domain or other MS ACCESS Tables are stored and select the File. In the File name window enter the name of the Eurotrace Domain from which the WINTIM Domain will be created **[e.g ASYCUDACSO.DOM]**

CLICK OPEN.

The WinTim Login screen opens

In the Login window

Type   **Admin** or Click on the arrow to the right of the Login Window and Select Admin

In the Password window

Enter the correct Password. Remember that Password is case-sensitive.

In this instance No Password has been set so leave the Password window blank.

With Admin entered into the Login window and with the Password window blank,

CLICK on the Login button.

The Application opens on the **General** Screen of the CONFIGURATION Sub-Menu
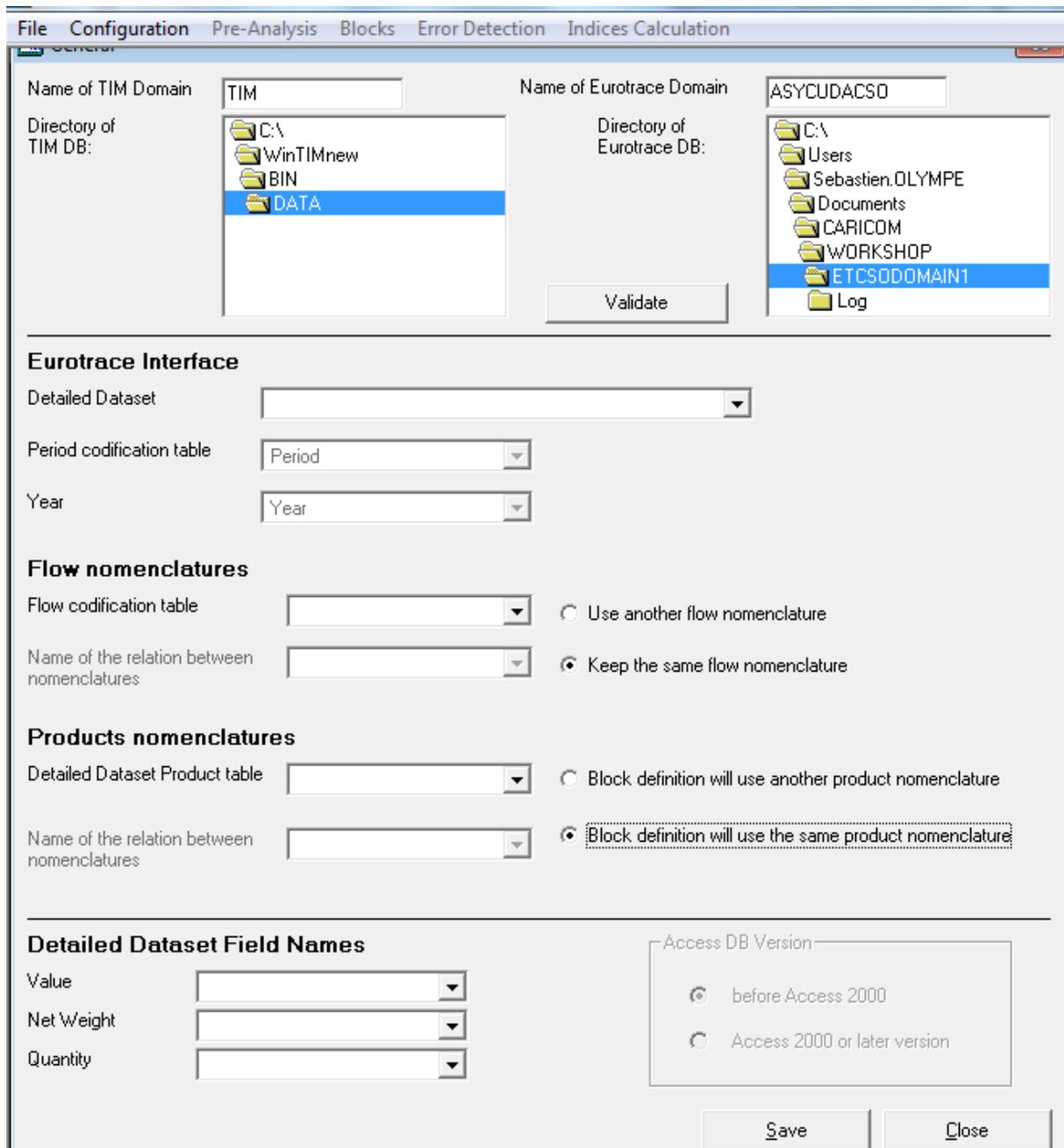
The user proceeds to set the source parameters based on the variables and dimensions of the selected Eurotrace domain.

The General parameters are discussed under the CONFIGURATION Menu item below

Once the source parameters have been set, Save the WinTim domain by clicking on the SAVE button.

WinTim returns a message   *Tim domain configuration is saved*
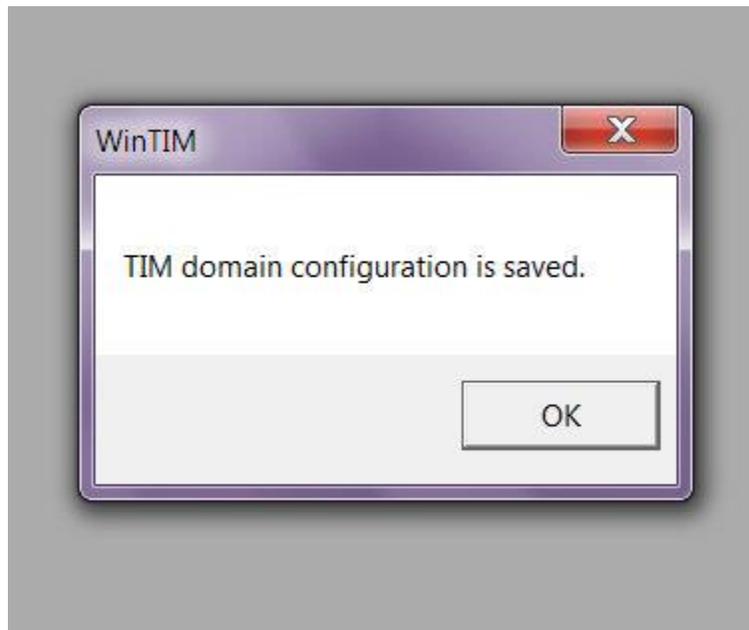
CLICK OK

WinTim returns to the Main Menu.

6.2. Opening an existing WINTIM Domain

To open a WINTIM domain that was previously created, open the FILE Sub-Menu.

From within the FILE Sub-Menu

SELECT *Open a new domain*
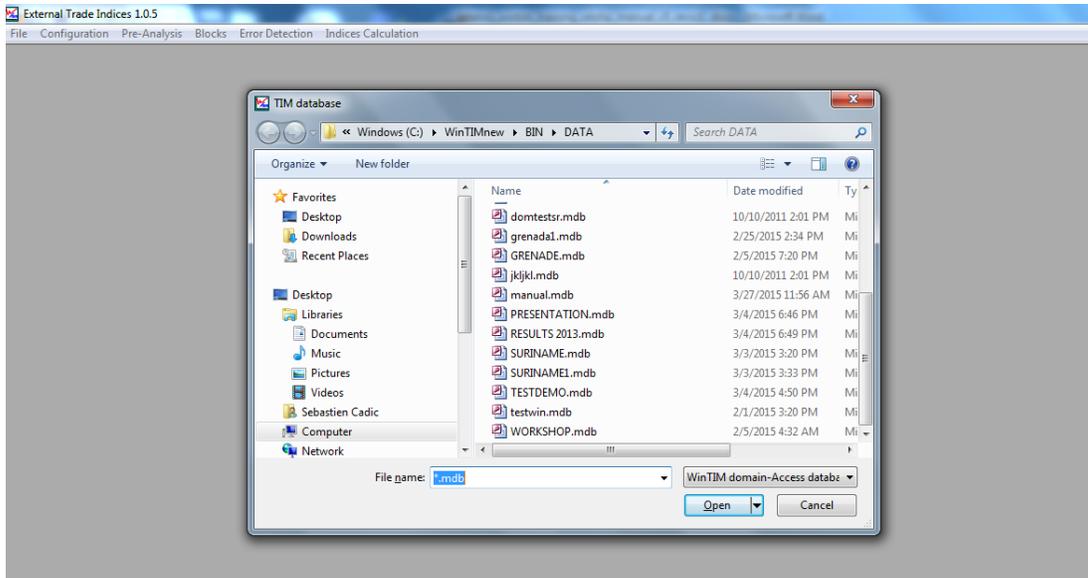
Highlight and Select the previously created WinTim domain Access database.

The name of the selected WINTIM domain appears in the File Name: window

Click OPEN

The Login Dialog box will open

In the Login window Type Admin or Click on the arrow to the right of the Login Window and

Select **Admin**

In the Password window enter the correct Password. Remember that Password is case-sensitive.

In this instance No Password has been set so leave the Password window blank.

With Admin entered in the Login window and with the Password window Blank, CLICK on the Login button.

The Screen returns to the Main Menu.

From the Main Menu move to the CONFIGURATION Option on the Main Menu

CHAPTER SEVEN

7. CONFIGURATION OPTION

In the CONFIGURATION Sub-Menu, the user sets up in the WINTIM domain, important source parameters that are needed in order to commence index calculation operations and functions.
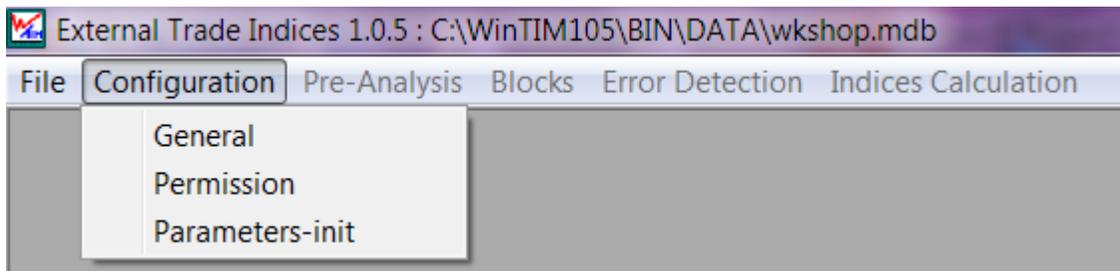
7.1. General

The General Option in CONFIGURATION opens a dialog screen that requires the user to input parameters that are consistent with the EUROTRACE Source domain from which the WinTim domain is to be created. The source parameters include:

- Name of the TIM domain and its storage folder

- Name of the Source and its folder

    o Dataset (Eurotrace) or source Table (MS ACCESS)

- Name of the dataset (or table) containing the detailed data

    o Period Dimension

    o Year Dimension

    o Flow Dimension

    o Product Dimension

    o Value Dimension

    o Net Weight Dimension

    o Quantity Dimension

From the CONFIGURATION sub menu

Select   General

The following Screen appears
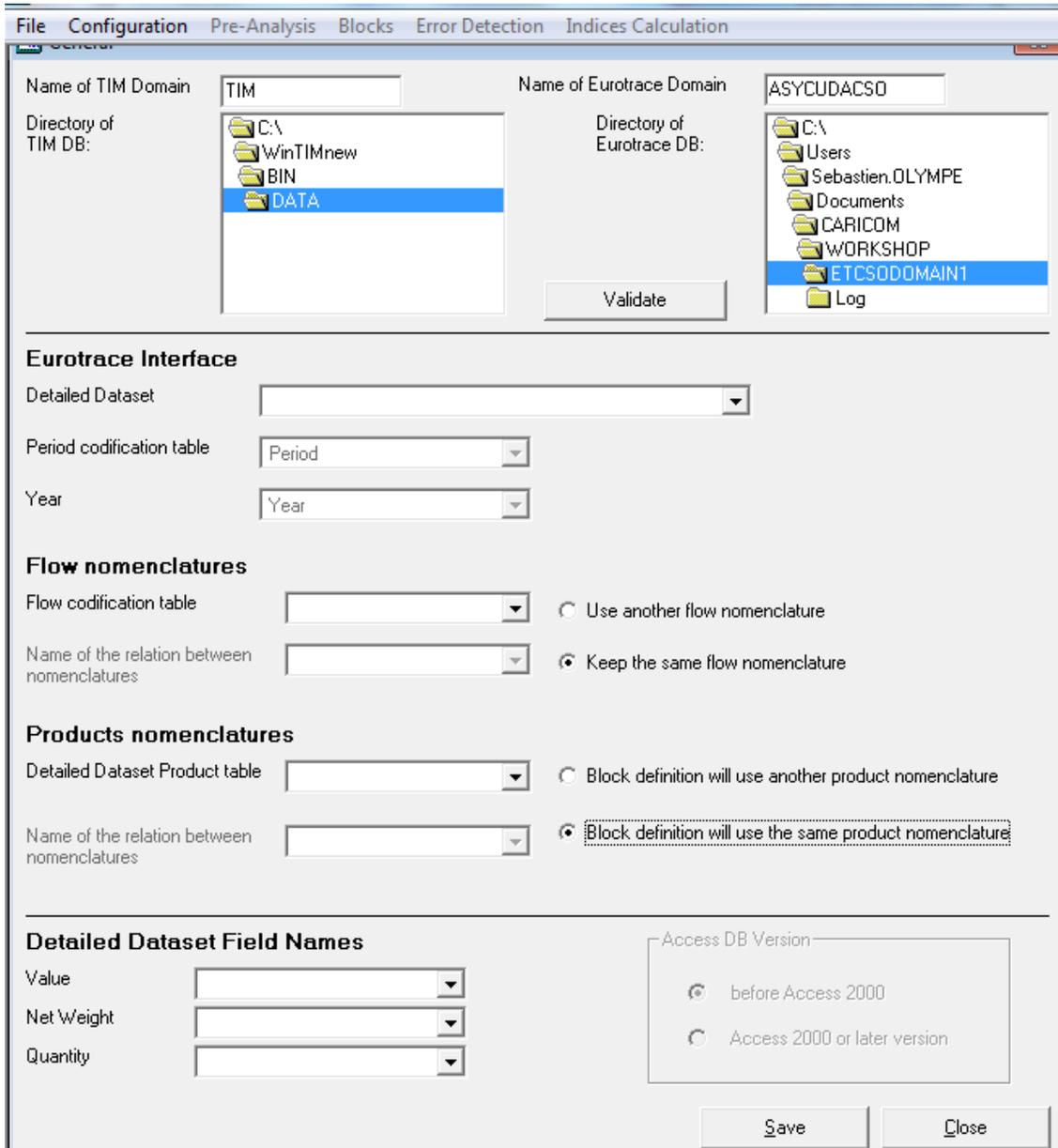
7.1.1. Setting the source parameters

The Left side of the Top Panel shows the *Name of the TIM domain* (default is TIM) and the Directory path to the TIM Database data storage folder.

Enter the name of the new WinTim domain. **[wkshp]**
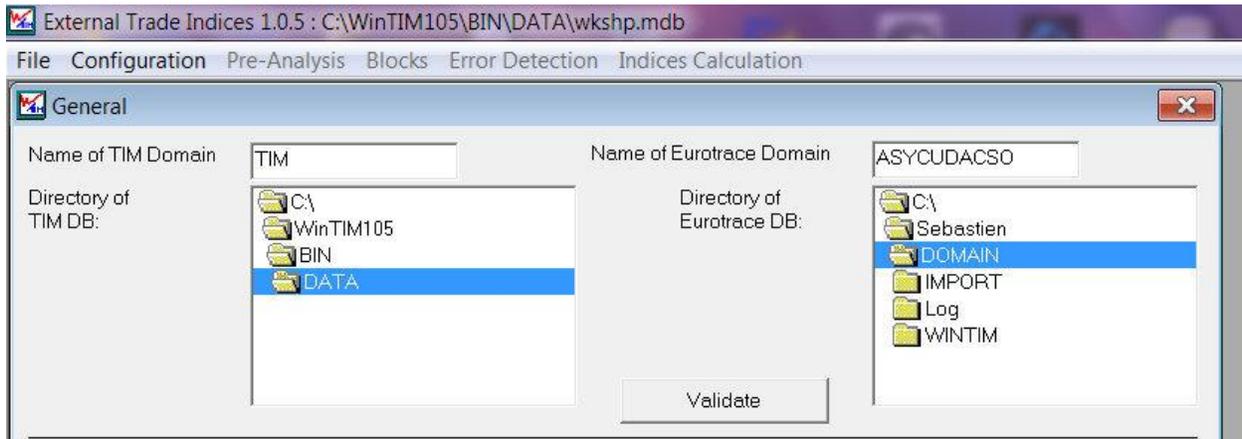
The Right Side of the Top Panel shows the *Name of the Eurotrace Domain or Other domain* from which the WINTIM domain will be/was created [ASYCUDACSO] and the Directory Path of that Eurotrace database or other source Table (MS Access).

7.1.2. Setting other dimension parameters

7.1.2.1. Eurotrace Interface

To enter the File name of the Detailed Dataset,

CLICK on the arrow to the right of the Detailed Dataset Window.

A dropdown menu appears with the names of all available Detailed Datasets

Highlight the File name that contains the Detailed Dataset [ASYCUDAWorld] and mouse click or enter. The selected File name [ASYCUDAWorld] appears in the Detailed Dataset Window.

7.1.2.2. Flow Nomenclatures

Before making any entry into the Flow Codification Table window, the user must choose one of the two radio buttons to the right of the window.

- *Keep the same flow nomenclature or*
- *Use another flow nomenclature*.

If the user chooses to *Keep the same flow nomenclature* then WinTim would use the same Flow Nomenclature that is the default nomenclature in the EUROTRACE domain

If the user should choose, *Use another flow nomenclature* button then, the Name of the relation between nomenclatures, (that is between the default Nomenclature and the other flow nomenclature), must be entered by selecting from the dropdown box.

CLICK on the Arrow to the right of the Flow codification table and select from the list. **[Flow]**

7.1.2.3.   Products Nomenclature

Before making any entry into the Flow codification Table window, the user must choose one of the radio buttons

- *Block definition will use another product nomenclature*

- *Block definition will use the same product nomenclature*

CLICK on the Arrow to the right of the Detailed Dataset Product table and select **[HS]** from the list.

7.1.2.4.   Detailed Dataset Field Names

Click on the Arrow to the right of each window and select from the drop down list and hit enter.

The selections should be consistent with the variable names in the source Eurotrace domain or other Access table

Value   **……...**   **[Value]**

Net Weight   **……...**   **[Net Mass]**

Quantity   **……...**   **[SubQty]**

CLICK on SAVE

WinTim returns a Message

TIM domain configuration is saved.
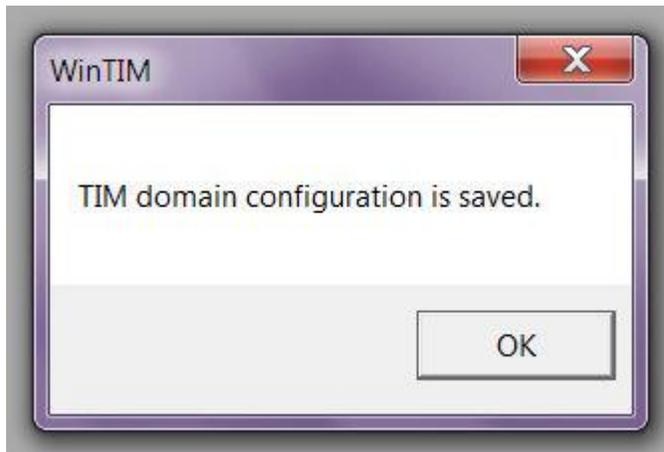
Click   OK

SELECT CLOSE and return to the Main Menu.

If the WINTIM domain was previously created the Dialog boxes on the Screen would have already been populated with the relevant Parameters. Confirm that the name of the WinTim domain entered is the correct name of the database that will be used. Verify that the Eurotrace domain is the correct one to be used and continue to review the other Parameters.

- Eurotrace Interface
- Flow nomenclatures
- Products Nomenclatures
- Detailed Dataset Field Names

Click SAVE   to save the WINTIM domain.

A screen message appears

"TIM domain configuration is saved".
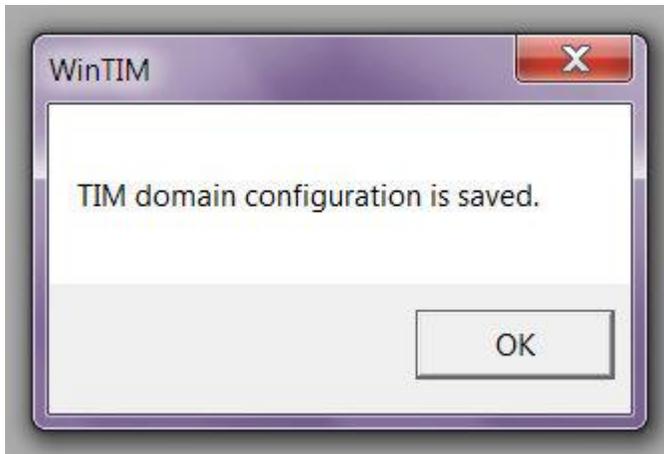
Clicking OK will closes the message window and return to the Main Menu.

7.2. CONFIGURATION

7.2.1. Parameters-init

Open CONFIGURATION Sub-Menu

SELECT   **Parameters-init**

The *Parameters-init* option customises the WinTim domain in advance of actions that would be subsequently performed. Initialisation Parameters requiring attention include:

Dates – the Beginning and Ending Dates and the Year within the data interval which would be chosen as the Reference or Base Year for index calculations.

For the workshop

Begin Date of interval of data   Enter 2007

End date of interval of data   Enter 2012

Blocks Definition – sets the minimum number of dataset lines that are represented in a block and the percentage of trade to be covered by a block.

Minimum number of dataset represented in a block	Accept Default	50
Percentage of Trade covered by a block	Accept Default	20

Pre-Analysis – the parameters to be setup here which would be activated when the Pre-analysis actions are undertaken include,

>   Period (Year);

>   Minimum value allowed for the Correlations between Value and Net Mass and Value and Supplementary Quantity;

>   Minimum number of entries in the dataset per product (commodity) required for calculation of correlations; and

>   Minimum number of different months in which a product that would be used in the calculation of the index would appear.

Accept the default values given by WinTim. These values can be adjusted through an iterative process.

The values set for these parameters are important as they determine the number of records and the percentage of trade that would be used in the calculation of the Unit Value Indices.

Error Detection - This parameter sets the Maximum interval between values and the median (%)

>   Enter   40

Transcodification Flow – here the parameters that are set are the Eurotrace Codes from the EUROTRACE domain and accompanying labels that correspond to the TIM Codes for Import and Export Flows. The codes entered here must be the exact Flow codes that exist in the selected Eurotrace domain.

For the workshop replace Eurotrace Code for Imports with   **i**

For the workshop replace Eurotrace Code for Exports with   **d**
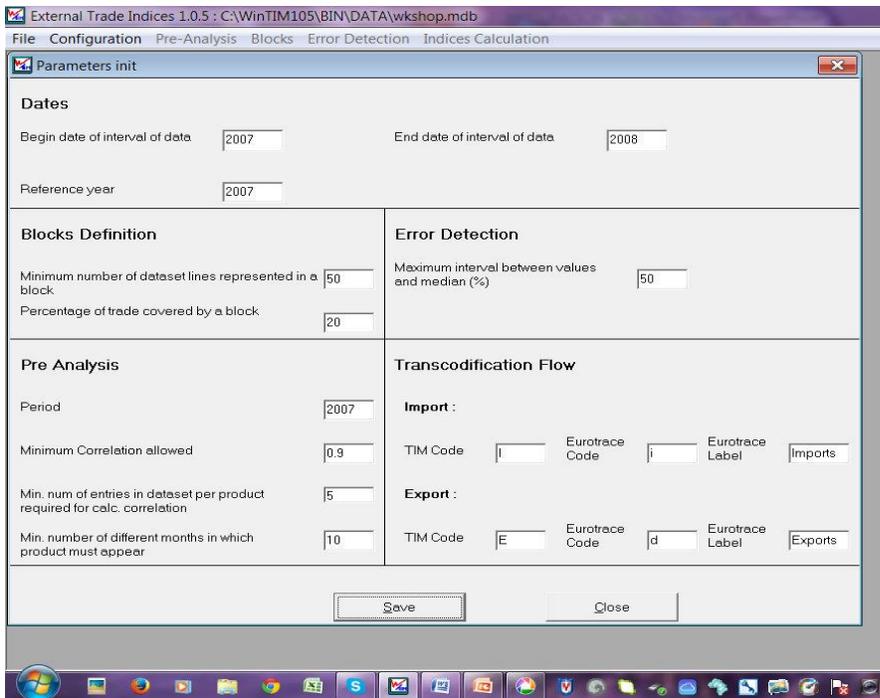
Review the updated parameters. Make any adjustments that are necessary then click SAVE.

WinTim returns a Message

TIM domain configuration is saved.
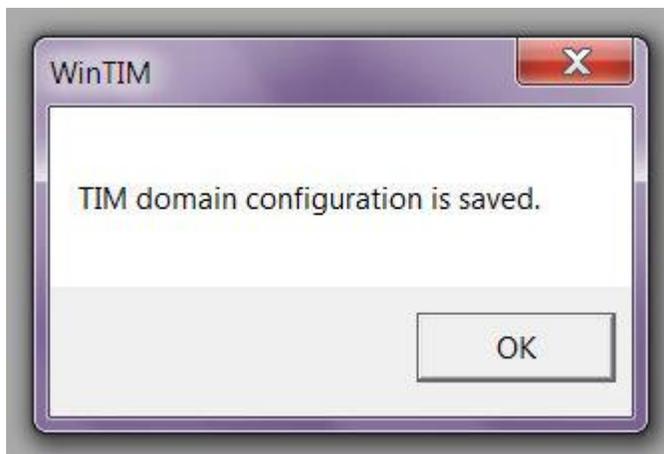
Click   OK

SELECT   CLOSE and return to the Main Menu.

CHAPTER EIGHT

8. PRE-ANALYSIS OPTION

The Pre-Analysis Sub-menu contains two items

- Prepare data

- Analyse / Select products
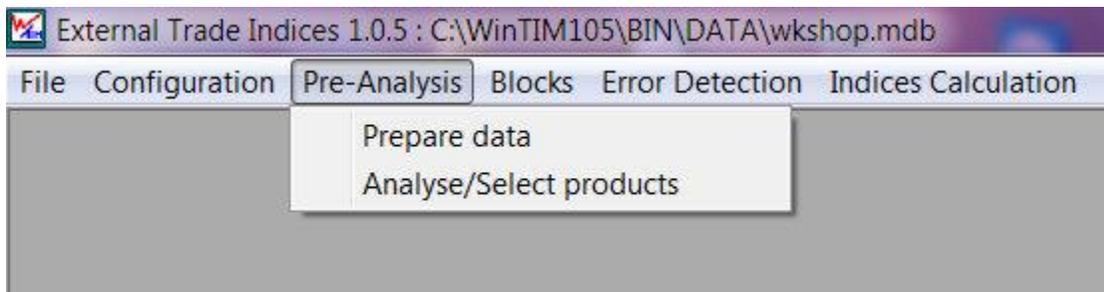
8.1. Prepare data

Prepare data uses the **General** Source parameters and the parameters set in **Parameters init** in the Configuration menu to prepare the data from the detailed dataset for use in Index Calculation.

When *Prepare data* is selected the parameters set in *Parameters init* are displayed giving the user the opportunity to review and revise the parameters.

The user after confirming the Parameters then pushes the **OK** button and WinTim begins to process the records of the detailed dataset.

8.1.1. Pre Analysis – Prepare Data

Pre Analysis - Prepare Data

Parameters

Period (year)   2007

Minimum Correlation allowed   0.9

Min. num of entries in dataset per product required for calc. correlation   5

Min. number of different months in which product must appear   10

OK   Close

Making local copy of dataset
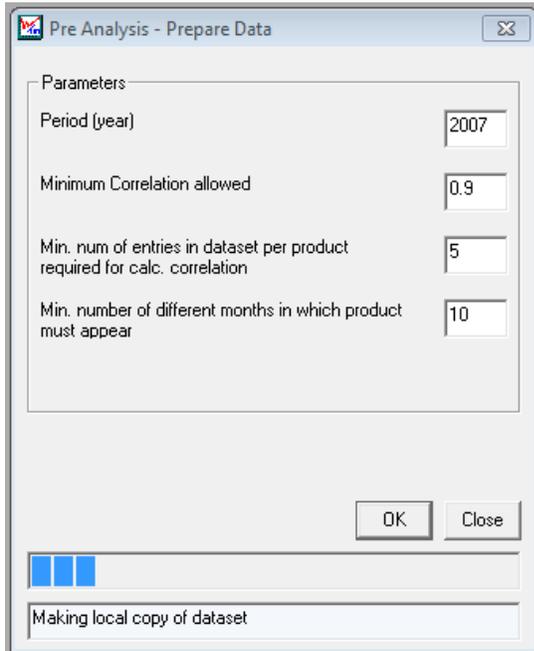
When WinTim has completed the Pre-Analysis, the following screen appears.

8.2. Pre-Analysis

External Trade Indices 1.0.5 : C:\WinTIM105\BIN\DATA\wkshp.mdb

File   Configuration   Pre-Analysis   Blocks   Error Detection   Indices Calculation

Pre-Analysis - Manual data analysis

Select Product
Product Code   01011000

Best correlation to use
◉ Net Weight   ○ Quantity

The product will be
○ Included   ◉ Excluded

Product list
◉ Imported Products   ○ Exported products

Parameters
Period (year)   2007
Minimum Correlation allowed   0.9
Min. num of entries in dataset per product required for calc. correlation   5
Min. number of different months in which product must appear   10
Recalculate

Summary
Total number of products   15414
Number of products occuring in Dataset

	Imported Products	Exported Products
Number of products occuring in Dataset	4953	2232
Number of included products	775	290
Percentage of total	15.647	12.992
Total value of Products	48494225007	81050596657
Value of included products	25372838301	63758478704
Percentage of total value	52.321	78.665

Products Sample

Product Code	Description	Correlation between Value and Net Weight	Correlation between Value and Quantity	Total value of Product	Num. of records in dataset for this product	Num. of months in which product was traded	Best correlation	Exclude product	Calc. based on year
01011000	HORSES PURE-BRED FOR BREEDING	0.8269	0.8250	945 788.00	16	4	Weight	Y	2007
01019010	RACE HORSES NOT FOR BREEDING	0.2137	0.9295	6812 442.00	18	8	Quantity	Y	2007
01019090	LIVE HORSES, ASSES ETC NOT BREEDING,PURE BRE	0.8218	0.8017	133 998.00	5	3	Weight	Y	2007
01041010	SHEEP FOR BREEDING	1.0000	1.0000	19 713.00	1	1	Weight	Y	2007
01042010	GOATS FOR BREEDING	1.0000	1.0000	7 885.00	1	1	Weight	Y	2007
01051110	FOWLS <=185 G FOR BREEDING	0.9943	0.9960	603 739.00	8	6	Quantity	Y	2007
01051120	FOWLS <=185 G FOR REARING	0.7262	0.7395	925 878.00	12	8	Quantity	Y	2007
01051210	TURKEYS <= 185 G FOR BREEDING	1.0000	1.0000	3 762.00	1	1	Weight	Y	2007
01051920	OTHER POULTRY <= 185 G FOR REARING	0.9762	0.9642	1781 558.00	55	9	Weight	Y	2007
01051990	OTHER POULTRY <= 185 G	0.9696	0.9927	178 346.00	8	3	Quantity	Y	2007
01062010	TURTLES	1.0000	1.0000	1 644.00	1	1	Weight	Y	2007
01069090	OTHER LIVE ANIMALS	0.9994	0.9980	18 372.00	2	2	Weight	Y	2007
02011000	BOVINE CARCASSES FRESH OR CHILLED	1.0000	0.0000	78 264.00	1	1	Weight	Y	2007
02012090	OTHER BEEF WITH BONE FRESH OR CHILLED	1.0000	0.0000	461 343.00	2	2	Weight	Y	2007
02013010	TENDERLOIN BONELESS FRESH OR CHILLED	0.9926	0.0000	203 408.00	8	6	Weight	Y	2007
02013020	BOVINE SIRLOIN B. LESS FRESH OR CHILLED	1.0000	0.0000	2 882.00	1	1	Weight	Y	2007
02013030	BOVINE MINCED MEAT FRESH OR CHILLED	1.0000	0.0000	6 157.00	1	1	Weight	Y	2007
02013090	OTHER BOVINE BONELESS FRESH OR CHILLED	0.9857	0.0000	413 851.00	21	9	Weight	Y	2007
02021000	BOVINE CARCASSES FZ AND HALF CARCASSES FZ	0.9534	0.0000	1231 091.00	4	4	Weight	Y	2007
02022010	BOVINE BRISKET BONEIN FROZEN	0.9540	0.0000	5 699.00	3	2	Weight	Y	2007
02022090	OTHER BOVINE BONE MEAT FROZEN	0.9918	0.0000	4423 396.00	83	12	Weight	N	2007
02023010	TENDERLOIN BONELESS FROZEN	0.9117	0.0000	3936 469.00	69	12	Weight	N	2007
02023020	BOVINE SIRLOIN BONELESS FROZEN	0.9532	0.0000	1437 191.00	49	12	Weight	N	2007
02023030	BOVINE MINCED MEAT FROZEN	0.9893	0.0000	371 280.00	11	7	Weight	Y	2007

02:04

WinTim provides detailed output showing the Product List from the detailed dataset, indicating according to the Flow (Imported Products / Exported Products) the products that will be Included or Excluded for the purpose of the calculation of the index.

8.3. Analyse/Select products

The Analyse / Select products option give the user the ability to select specific product codes for closer analysis To analyse selected products enter the desired product code {eg. 27149020] in the Product Code window at the top left corner of the Pre-Analysis – Manual data analysis screen.

The selected product moves to the top of the Products Sample panel.

For example, enter Product Code **27149020 Natural Asphalt**

Examination of the information provided reveals that 27149020 Natural Asphalt was marked "Y" under the column Excluded products, indicating that the product was marked to be excluded.

The product would have been excluded because one or more of the parameters set would have been violated.

8.4. Examination of the Summary

Notice that based on the parameters that were set, there were only 775 products included for index number construction out of 4953 imported products occurring in the dataset. Further the included products accounted for 52.321percent of the total value.

The User has the option to revise the parameters and recalculate the sheet. Consider the following revisions:

➢ Minimum Correlation allowed -   From: **.9**   To: **.5**

➢ Minimum number of different months

    in which product must appear   From: **10**   To: **4**

Once the parameters have been reset then, click on **Recalculate.**

8.4.1. Changes in the Summary section of the page

Out of the 4953 products occurring in the Dataset, the number of included products increased from 775 to 3251 for imported products.

The included products accounted for 84.05% of the total value. This was an increase from 52.321% when the previous parameters were used.

Change the Flow to Exported products and see what impact the change in the parameters would have had on the Exported products?

8.4.2. Sorting the Data Fields

You may Sort the data by right-clicking the mouse.

     Sort by option appears on the screen along with

     Export sample data to excel

Moving the pointer to **Sort by** reveals the sort by options:

Product

Excluded/Included

Product Value

8.5. Exporting the Data to MS Excel

The user may choose to export the data to MS Excel for further analysis. To do so, right click the mouse and Click on **Export sample data to excel.**

In the screen that appears, navigate to the directory path where the Excel file will be stored and enter the <Name of the File> in the File name window.
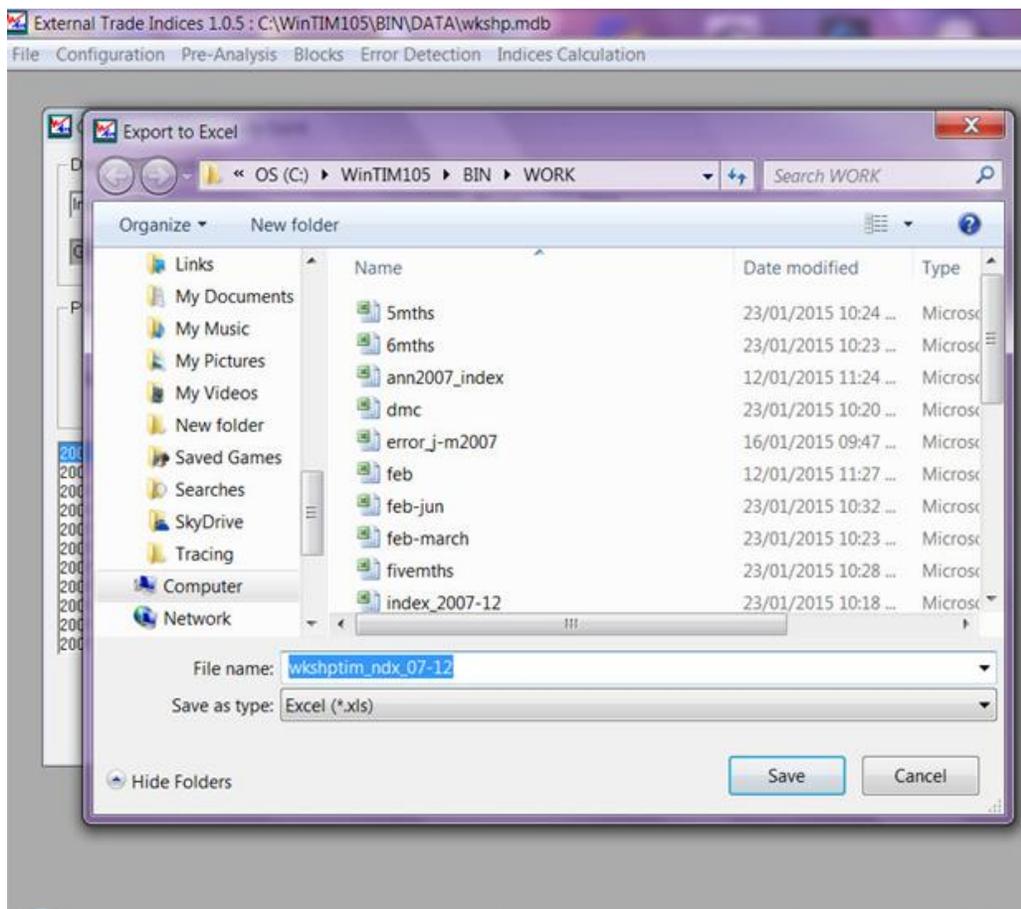
Select SAVE
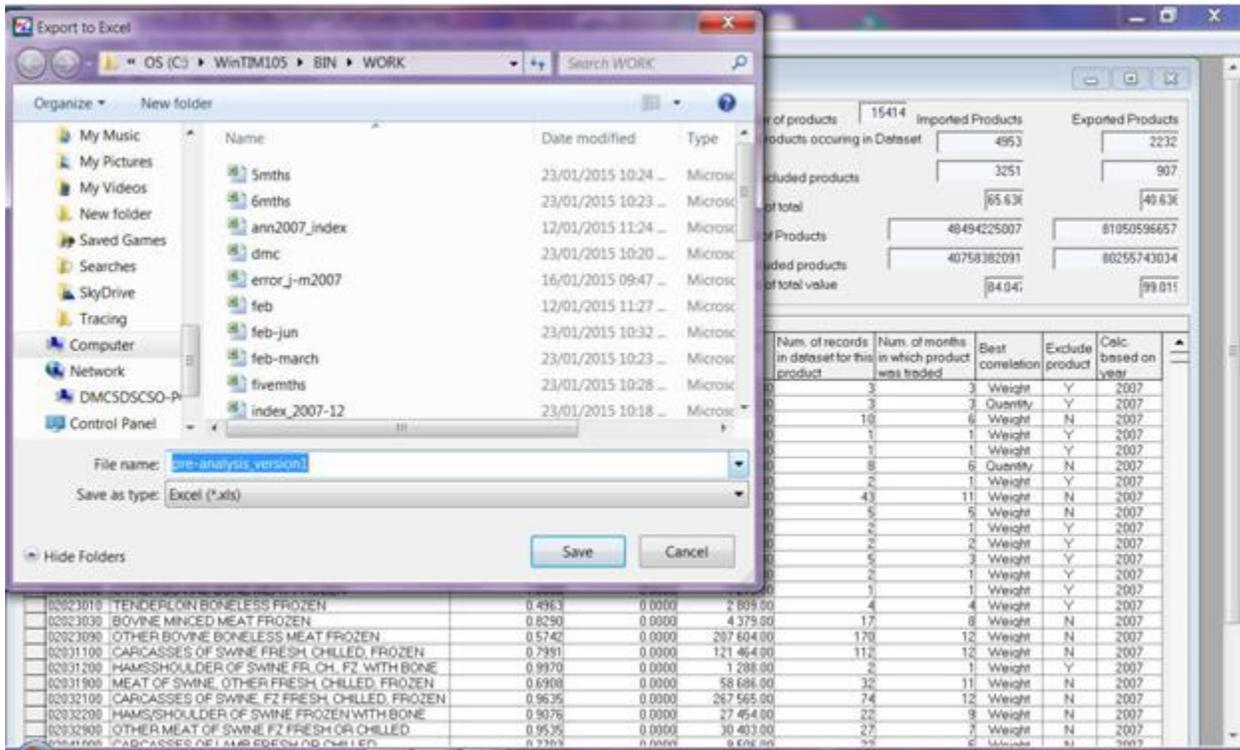
When naming the MS Excel file, make sure to choose a meaningful name that can be recognised and remembered. It may be useful to include in the name of the MS Excel File, a code that refers to the stage of data processing. Also take notice of the directory path where the MS Excel file has been saved.

e.g. C:\WINTIM\BIN\WORK

CHAPTER NINE

9. BLOCKS OPTION

The Blocks option on the Main Menu reveals two sub-menu options:

- Define Block Structure

- View Defined Blocks
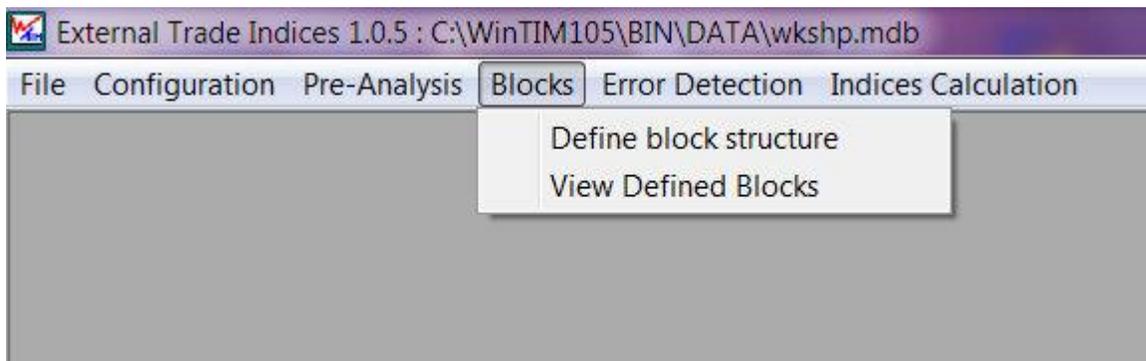
The creation of blocks is an intermediate stage in the process of the calculation of the indices.

9.1. Define Block Structure

Selecting *Define Block Structure* will open the following screen.
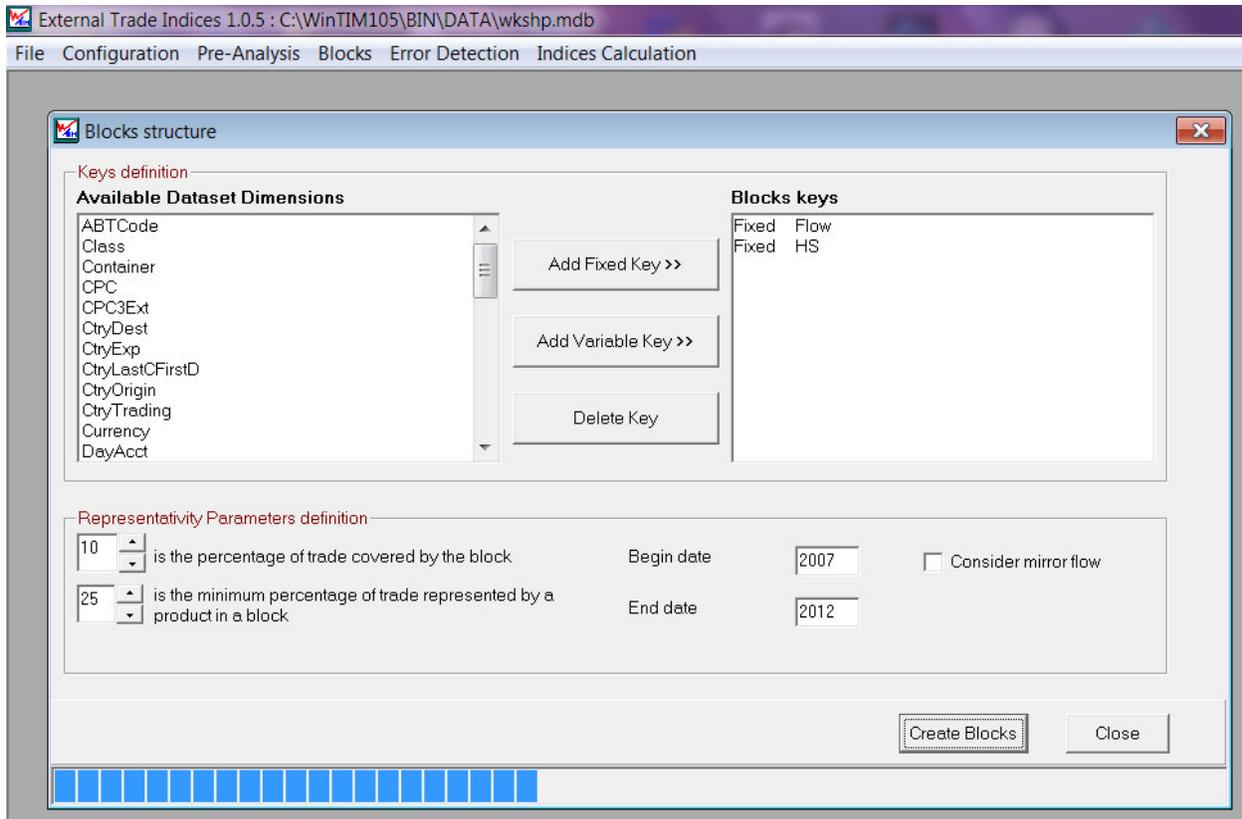
The left window of the screen provides a list of all the dataset dimensions available to the user.

The user selects from the list of available dimensions, the dimensions that would be used in creation of the data blocks, by highlighting the selected dimension and clicking on the Add Fixed Key. This action moves the selected dimension from the list to the Blocks Keys active window. In similar manner the user can add Variable Keys selected from the available list, to be added to the Blocks Keys for use in the creation of the blocks.

The Delete Key is used to remove any dimension key from the Blocks Keys active window. The chosen dimension is not actually deleted but is returned to the list of available Keys.

The user must also set parameters in the lower panel of the screen. These parameters include

The percentage of trade covered by the block   [10] %

The minimum percentage of trade represented by a product in a block   [20] %

The Beginning Date   [2007]

The End Date   **[2012]**

The Mirror Flow Check Box   **[blank]**

The Mirror Flow Check Box may be checked where the Eurotrace Domain contains Detailed data for the partner country of Flow. This would exist for example in the case of the Trade Statistics Domain managed by the Regional Statistics Program of CARICOM in respect of CARICOM Trade. The same may apply in the case of EUROSTAT in respect of Trade among European Community members.

Once the Fixed Dimensions and Variable Dimensions have been added to the Blocks Keys and the Parameters have been set, the user then selects *Create Blocks* button. WinTim returns a message advising that redefinition of the block (which happens when the Dimensions and Parameters are reset will render all previous work with outliers to be deleted).

The user selects YES, if there is no objection to having previous work deleted. If that is not the intention or desired action then selct NO. For the training exercise select YES

CHAPTER TEN

10. ERROR DETECTION OPTION

The Error Detection Option does not have a sub-menu to choose from. Selecting Error detection from the main manu opens the screen Error Detection – Block Method shown below
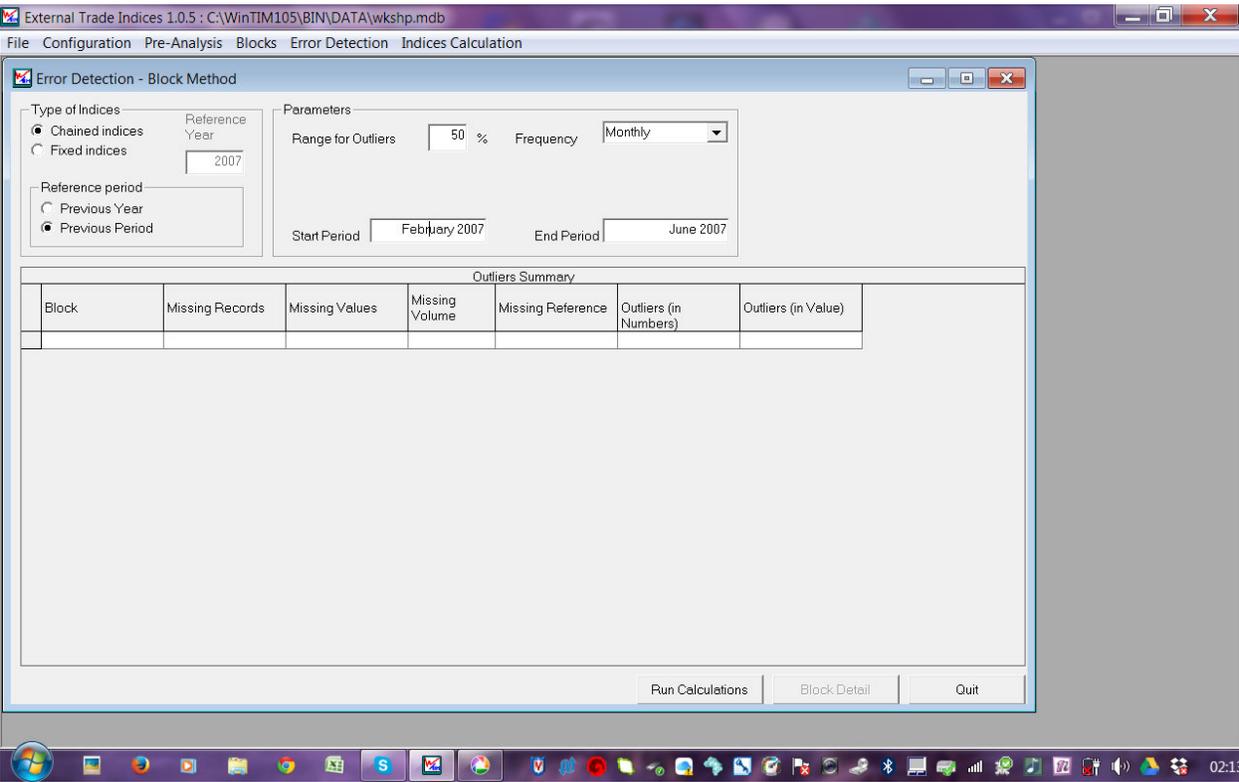
The user must complete the dialog boxes to set the parameters that WinTim would need to use in processing the errors.

When the dialog boxes have been filled and the user selects the Run Calculations command button then the outliers are calculated and summarised in the following screen.

External Trade Indices 1.0.5 : C:\WinTIM105\BIN\DATA\wkshp.mdb

File   Configuration   Pre-Analysis   Blocks   Error Detection   Indices Calculation

Error Detection - Block Method

Type of Indices
- ◉ Chained indices
- ○ Fixed indices

Reference Year: 2007

Reference period
- ○ Previous Year
- ◉ Previous Period

Parameters
Range for Outliers: 50 %   Frequency: Monthly

Start Period: February 2007   End Period: June 2007

Outliers Summary

Block	Missing Records	Missing Values	Missing Volume	Missing Reference	Outliers (in Numbers)	Outliers (in Value)
▶ E 01011000	60%					
E 01019010	60%					
E 01019090	80%				0%	0%
E 01042010	80%					
E 01051120	60%					
E 01061900	80%					
E 01069030	0%				0%	0%
E 01069040	40%	33%	33%	0%		
E 02011000	80%				0%	0%
E 02012090	80%					
E 02023010	40%				0%	0%
E 02023030	20%					
E 02023090	0%				0%	0%
E 02031100	0%				0%	0%
E 02031900	0%				0%	0%
E 02032100	0%				0%	0%
E 02032200	40%				0%	0%
E 02032900	20%				0%	0%
E 02041000	80%				0%	0%

Run Calculations   Block Detail   Quit

02:16

After viewing the Outlier Summary report (screen above) that is produced when the Run Calculations command button is selected, the User can perform a detailed analysis of any product by selecting the Block Detail button in the Error Detection Option and entering the product code of interest (screen below) The user can then view detailed information for all the transactions that fall under the product code, including Flow, Year, Period, Customs Value, Net Weight, Quantity, Unit Value Index Calculated, Unit Value Index Median, Outlier status, and whether the product is an excluded product or not. The user can export the results to an Editor, Recalculate Outliers or move to another product code.

The screen that is shown below reveals the Outlier details for the selected product code and Flow. The user can examine the information and Recalculate the Outliers, save them or export them to a EUROTRACE editor for further analysis.

External Trade Indices 1.0.5 : C:\WinTIM105\BIN\DATA\wkshp.mdb

File Configuration Pre-Analysis Blocks Error Detection Indices Calculation

Error Detection - Block Method

Outliers details

Current Block

Product Code - SITC
01069030

Flow
E

( ) Show all periods
( ) Show only one period

Parameters

Chained indices   Monthly

2007   0.5

Outliers

| Product	Year	Period	Value	Net weight	Quantity	Volume	UVI	UVI Median	Outlier	Type of Outlier	Will be considered as an outlier from:	Will be considered as an outlier until:
01069030	2007	02	6 600.00	160.00	9.00	Net Weight	1.1206		#ERROR	Excluded produc	Always	Always
01069030	2007	03	8 724.00	237.00	8.00	Net Weight	1.0000		#ERROR	Excluded produc	Always	Always
01069030	2007	04	6 400.00	230.00	7.00	Net Weight	0.7559		#ERROR	Excluded produc	Always	Always
01069030	2007	05	200.00	27.00	2.00	Net Weight	0.2012		#ERROR	Excluded produc	Always	Always
01069030	2007	06	2 950.00	69.00	6.00	Net Weight	1.1615		#ERROR	Excluded produc	Always	Always

Previous Block   Next Block   Recalculate Outliers   Export to ET Editor   Save Changes   Quit

CHAPTER ELEVEN

11. INDICES CALCULATION
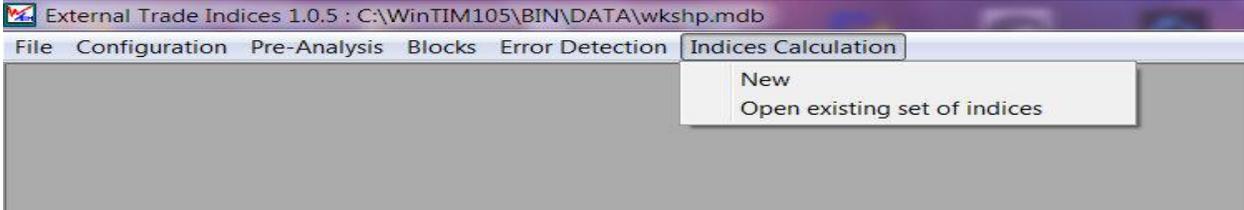
The User has the option to calculate *New* indices or *Open existing set of indices.* If the User selects *New* then the following dialog box opens.
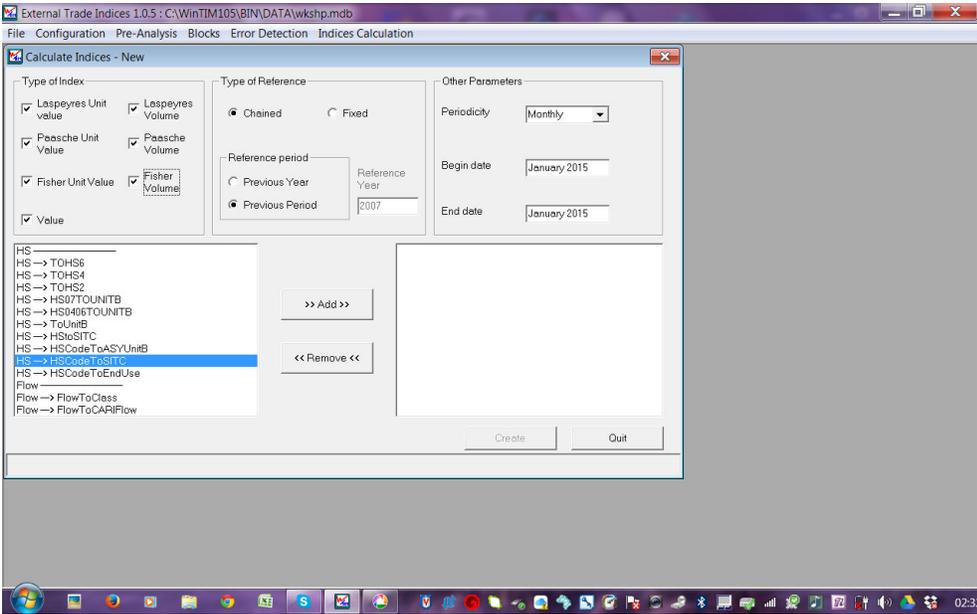
11.1. Types of Index

The user must indicate by checking the appropriate box what types of indices are to be calculated. The options are Unit Value Indices or Volume Indices of the Laspeyres, Paasche or Fisher Type.

11.2.   Type of Reference

The user must indicate whether the indices to be calculated are Chained Indices or Fixed base weighted indices. Other information to be input is the Reference Year and / or Reference Period depending on the periodicity that has been set in Other Parameters.

11.3.   Other Parameters

The user sets the Periodicity of the Indices (Monthly< Quarterly Annually)

The Beginning Date - the starting date of the Data Range.

The Ending Date - the Ending date of the Data Range.

The User must also select the Flow Nomenclature and the Product Nomenclature before selecting the Run Calculations button.

Select "HS_____" and then the Add button to transfer the Product Nomenclature to the Active Window and similarly select "Flow_____" and then the Add button to transfer the Flow Nomenclature to the active window.

When the Nomenclatures have been transferred to the active window then select the Create button. WinTim then proceeds to calculate the Indices based on the set parameters.
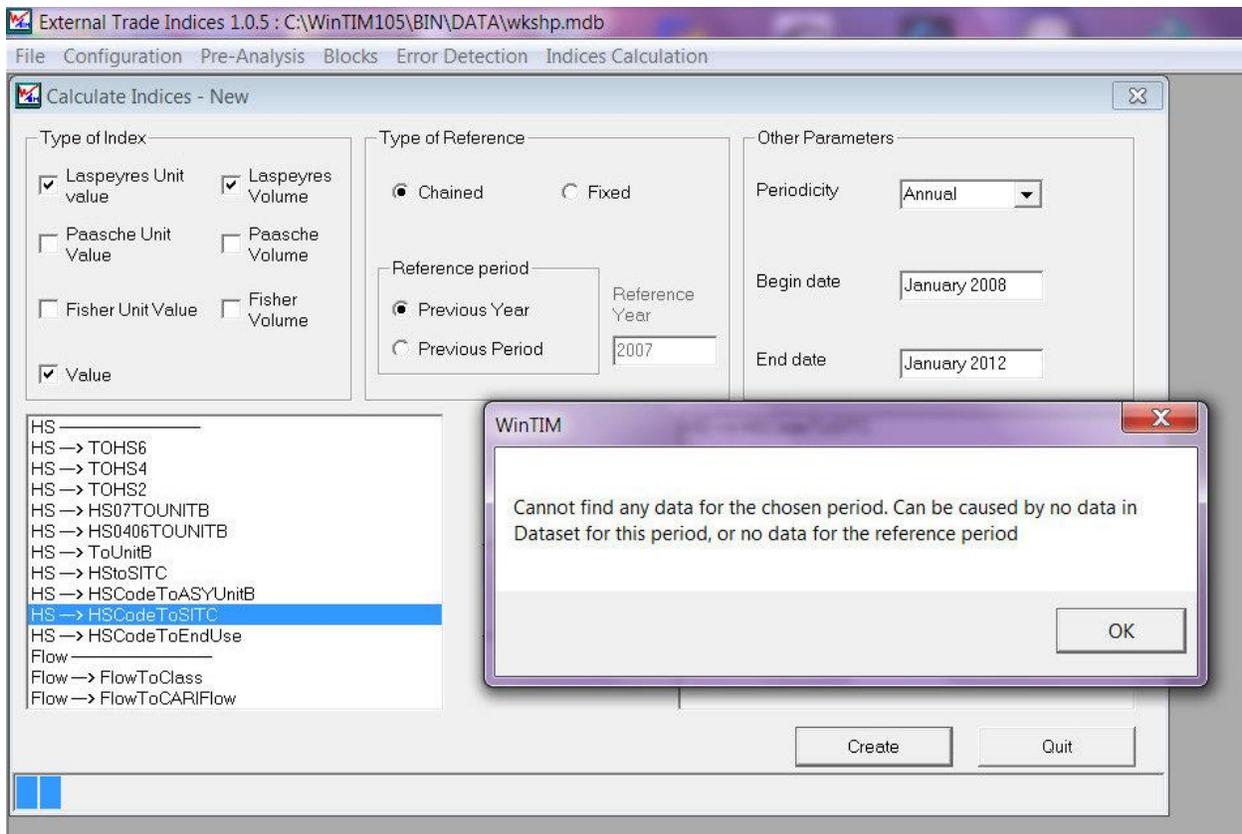
Make sure that the Start and End Dates are consistent with the data in the database. Further, remember that Chained indices require information from the previous period.

Win presents the indices calculated by month as requested for the period
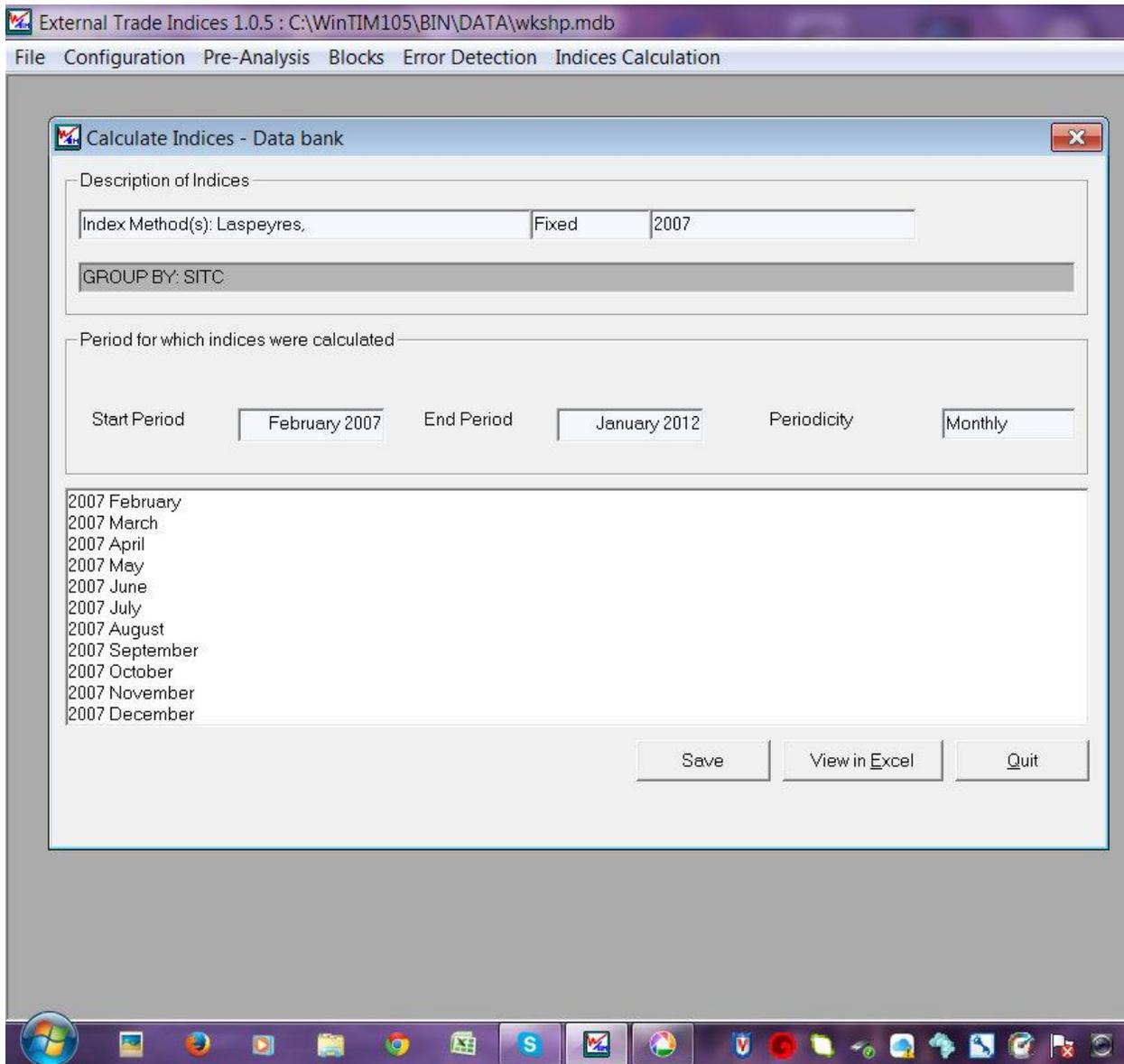
The User must then Save the output to the Win Tim database or View the data in Excel.