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Examples of Data handling for the ASIP / DevInfo 6.0 Data Base

Contents

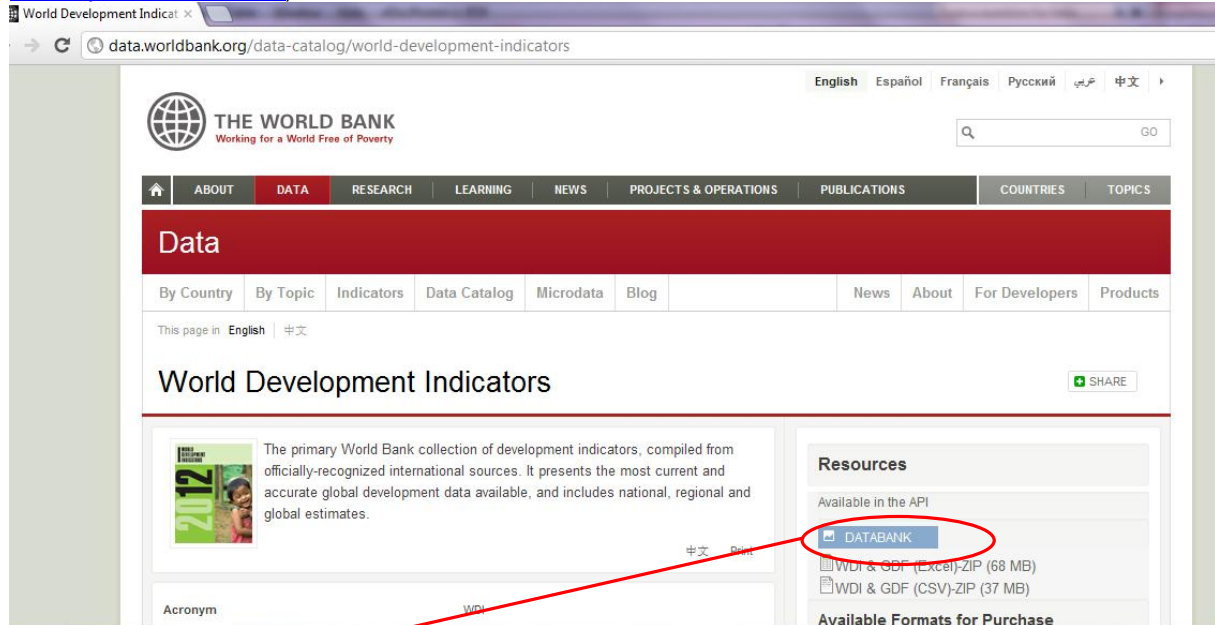# Retrieving Data for ASIP from an External Source

Example of a World Bank Database

As seen before data for ASIP / DevInfo are prepared with DevInfo 6.0 Data Base Administration

Example: We want to add data about Doing Business in European Countries:
First Step: Find the Data:
The World Bank: World development Indicators (http://data.worldbank.org/data-catalog/world-development-indicators)

Select database
http://databank.worldbank.org/ddp/home.do?Step=1&id=4
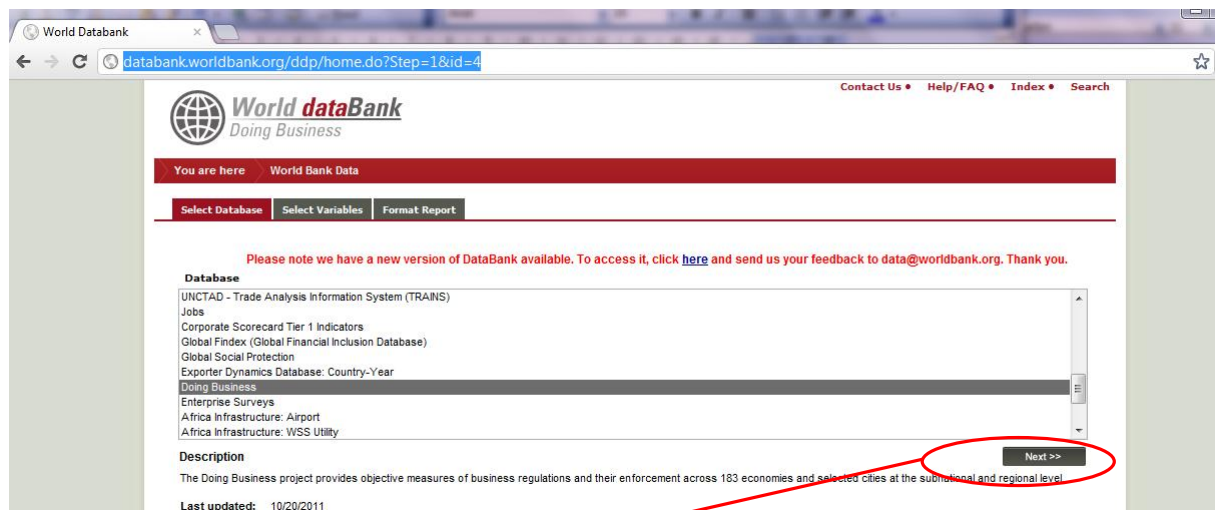
Select Next, then select countries
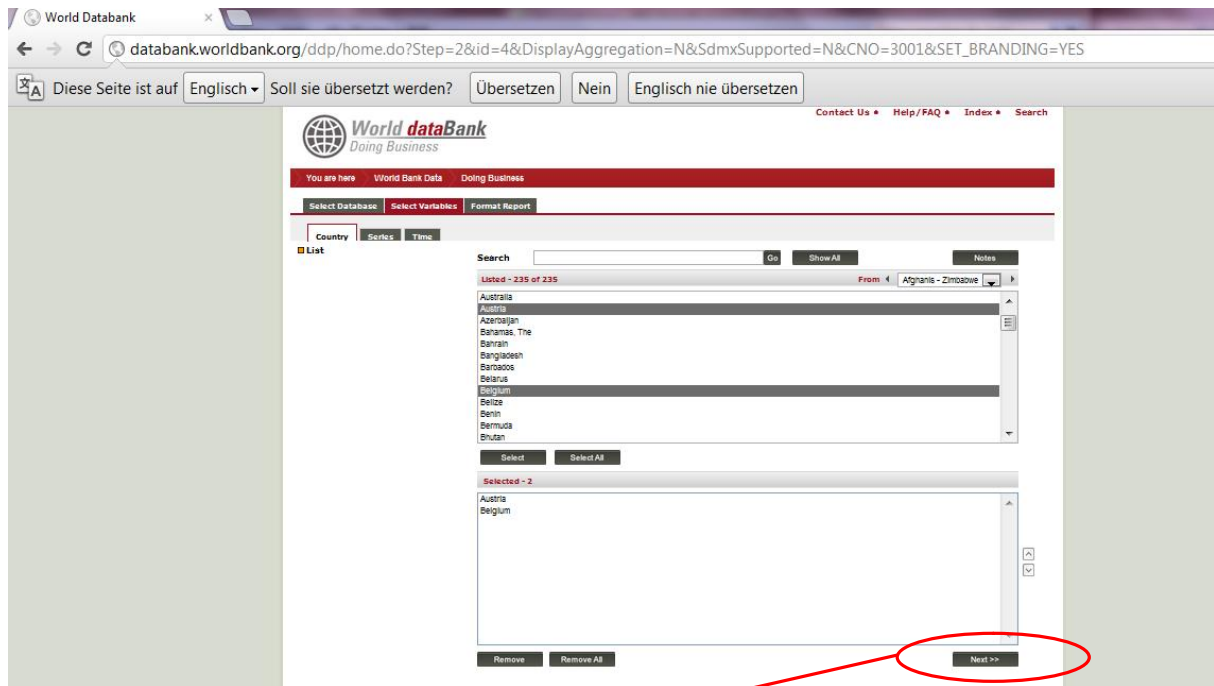
Select Next, then select Series
(use Ctrl + Click for multiple selection)
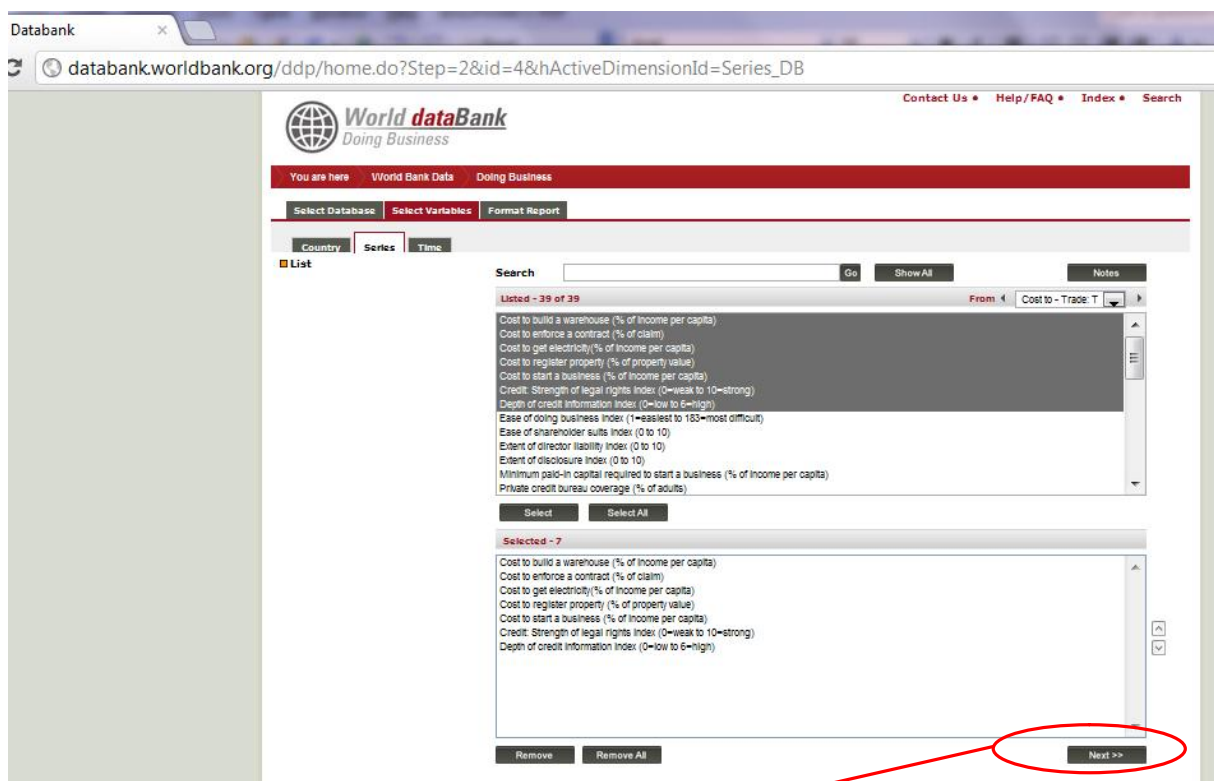
Select Next, then select Time
(use Shift + Click for multiple continuous selection)
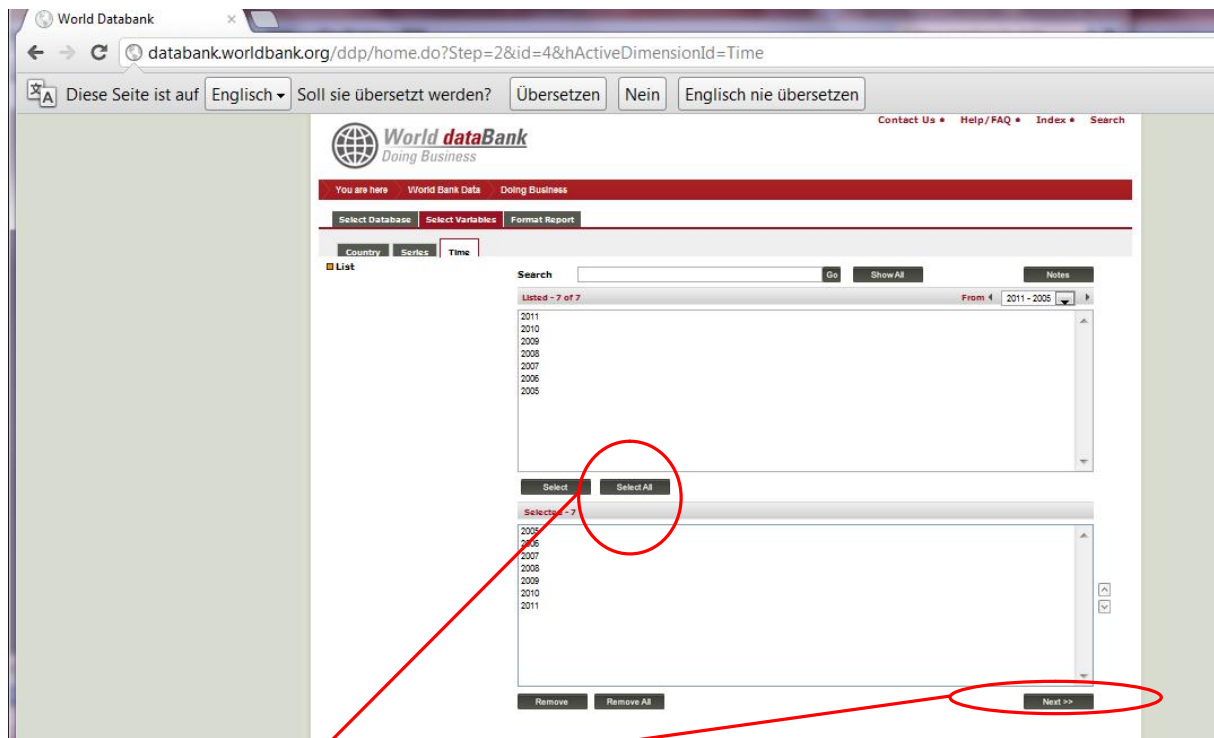
Select All, then select Next
(this is an example which you can alter as you wish)
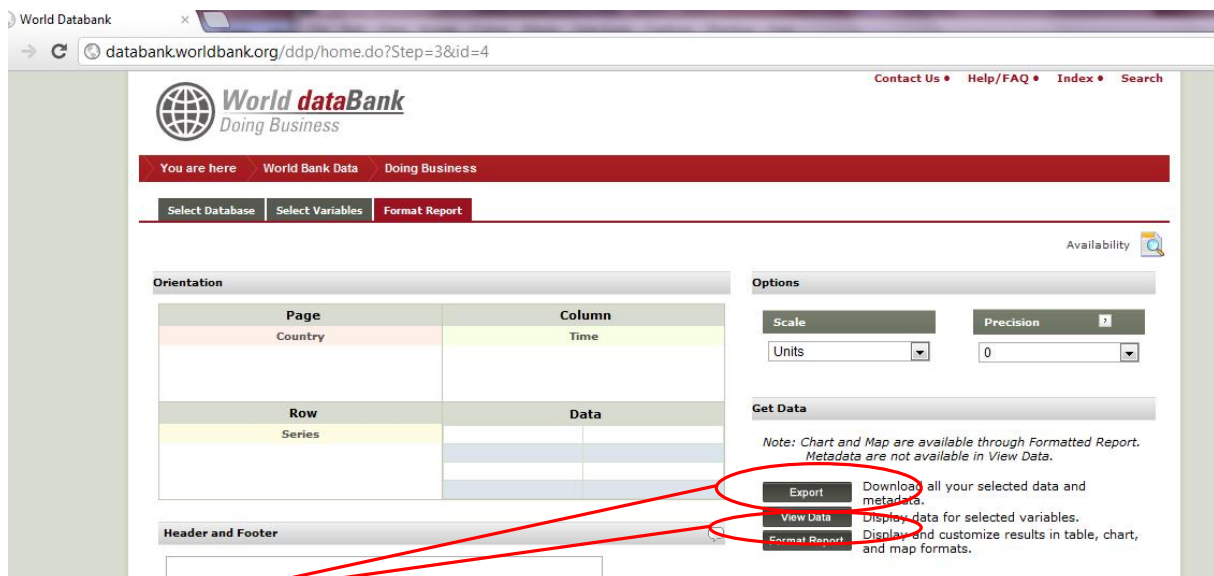
Select View Data, then Export Data
(move indicators from page, column, row, alter as you wish)

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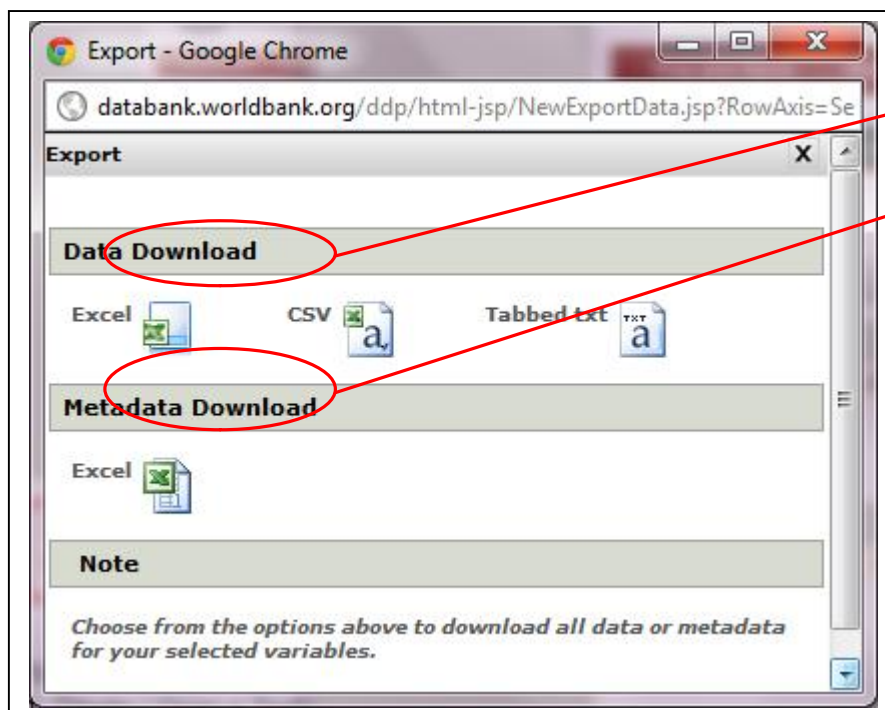
Select to download all data and / or metadata for your selected variables.

View Data:

	Series	2005	2006	2007	2008	2009	2010	2011
1	Cost to build a w...	69	67	62	60	61	62	61
2	Cost to enforce ...	13	13	13	18	18	18	18
3	Cost to get elect...	..	..	..	..	111	113	111
4	Cost to register ...	5	5	5	5	5	5	5
5	Cost to start a b...	6	6	5	5	5	5	5
6	Credit: Strength ...	7	7	7	7	7	7	7
7	Depth of credit i...	6	6	6	6	6	6	6

Note:

Data appearing as ".." signifies either not available or no practice. Instances of no practice are footnoted in the database.

No practice means the economy has no laws or regulations covering a specific area or if regulation exists but is never used in practice or if a competing regulation prohibits such practice.

Data and Metadata in EXEL

File is called: *Small Example DoingBusiness Data+Metadata.xls*

Transferring Data to the local ASIP Database

Feed, Change, Delete Data in the local ASIP Database

See also [8] *AIIP Manual for Users and DB Admin111121.pdf page 11, where this is treated in a less elaborate form*

The standard procedure to feed data to ASIP is done in three/four steps.
1. Create / Open a Template
2. Merge the template to the database
3. Data Entry to the data base with prior preparation of the data in EXCEL
(4. Metadata, add Metadata)
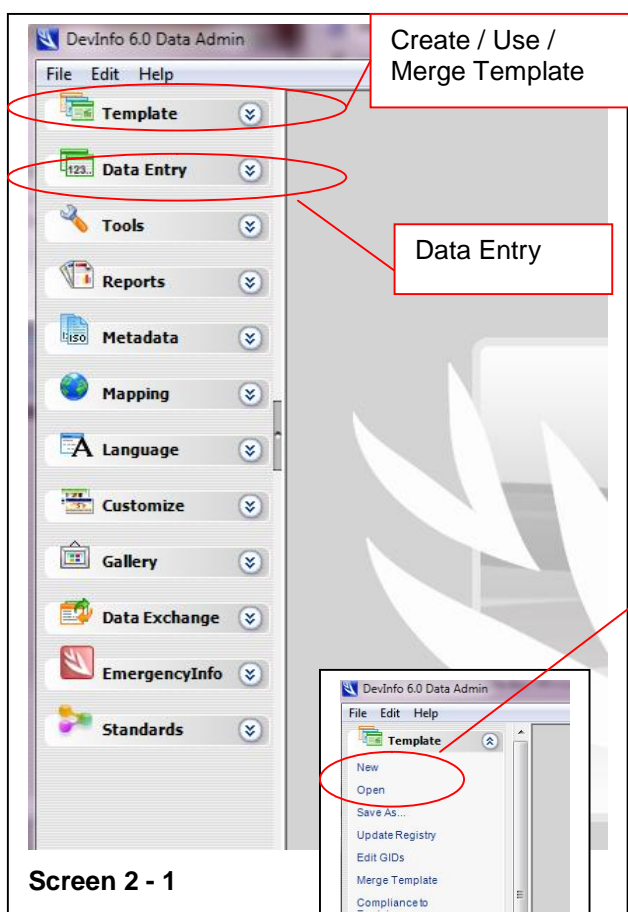
The first step is to click on the DevInfo 6.0 Data Base Administration icon

1. Call Data Base Administration
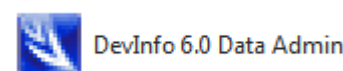
The standard interface will appear: We will limit the explanation to the main three activities
Create / Open a Template
A Template in DevInfo terms is a blueprint of a database structure.
Before entering any data to the database, a new structure has to be created, this called a template. An initial step is to create a template. In terms of the Access database a template is a table design.

Create a template

The Template module allows you to create or modify a DevInfo database template. The database template provides the structural model

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Screen 2 - 1

for building a DevInfo database. It specifies the elements against which data can be entered into a DevInfo database. While creating a template, you can do the following:

- Define indicators
- Define units of measurement
- Define subgroups, such as sex, location, age group and others
- Link indicators, units and subgroups to form I-U-S combinations
- Categorize I-U-S combinations under various indicator classifications, such as Sector, Goal, Framework, Theme, Institution and Convention
- Define geographic areas
- Link geographic areas to maps

Add Indicators

Let us try to add 7 new indicators for the new sectors Doing Business:

1. Cost to build a warehouse (% of income per capita)
2. Cost to enforce a contract (% of claim)
3. Cost to get electricity(% of income per capita)
4. Cost to register property (% of property value)
5. Cost to start a business (% of income per capita)
6. Credit: Strength of legal rights index (0=weak to 10=strong)
7. Depth of credit information index (0=low to 6=high)

All theses data series have been downloaded from the WDI as mentioned above and for 2 countries of Europe and for the 6 years 2005-2011. In the DevInfo Database Administration software the template SmallExampleDoingBusiness120619.tpl would look like this:
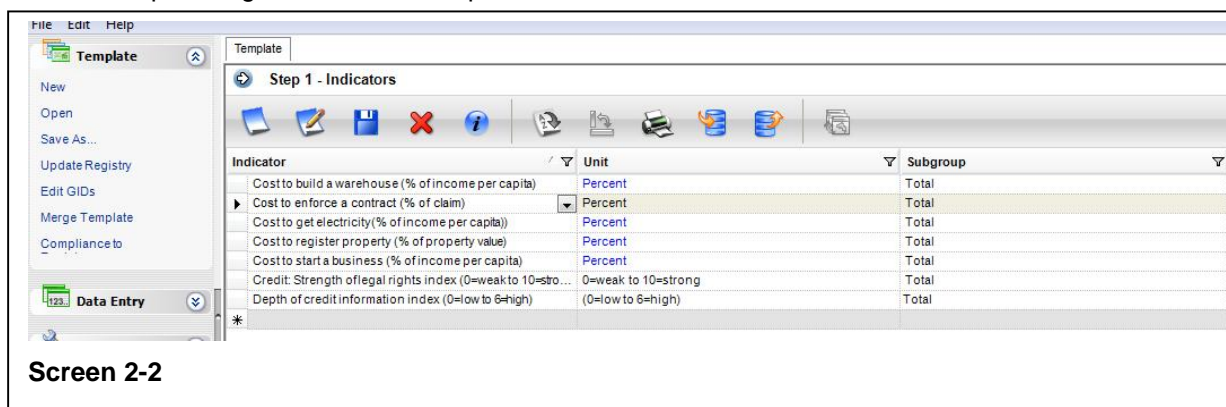
Screen 2-2

This means 7 new indicators will be added. Now coming to Units and Subgroups(I-U-S). On of the units (blue) can be imported from the DevInfo Registry (see Screen 2-3) The Percent is a Unit already used in DevInfo and can be important other units are new (0=weak to 10=strong) and (0=low to 6=high) are new .
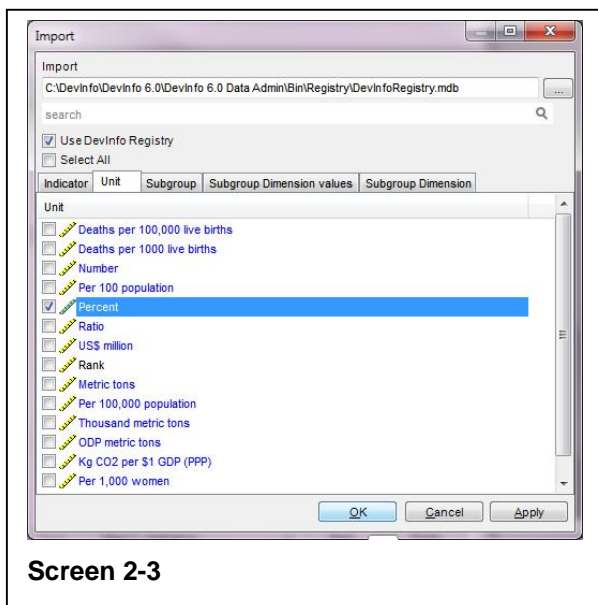
For subgroups only Totals are maintained

Note that the indicator names might temporarily disappear forms the screen after the import: They have not disappeared but can be retrieved form the Indicator list through the list selector (downward arrow)

So after completing the units and subgroups the screen would look like this (2-2) before clicking the <next> button.

Screen 2-3

The next screen allows an attribution of the indicators to the sectors and relating them to these sectors areas, the new area has to be included:

Note also that we have a sector ASIP and a (sub)sector DoingBusiness. We remember that we

might have to change the old names of sectors. All this can be altered at a later stage
So the sector screen would look like screen 2-4 before clicking the <next> button.
The indicators 1 to 7 are attributed to the two sectors (ASIP and DoingBusiness). You could also relate
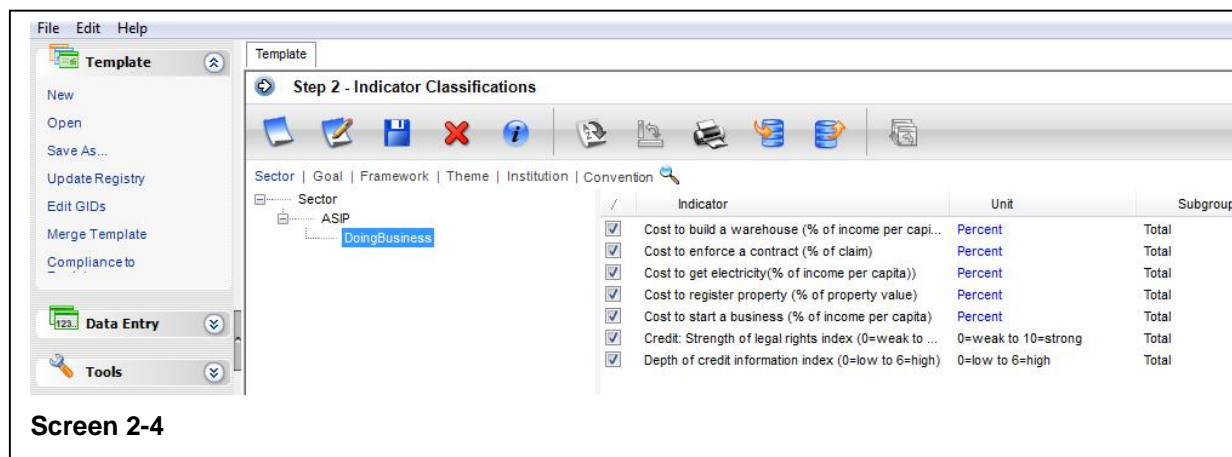
Screen 2-4

indicators to several different sectors as explained in the above mentioned document.
No other areas will be added. So the next screen areas can be skipped (clicking the <next> button) and
the file has to be saved under a name to remember (here SmallExampleDoingBusiness120619.tpl).
Clicking the <Finish> button ends the creation of new indicators via a template.
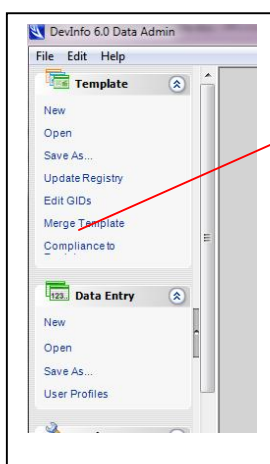
Merge a template

In the first screen select the template file you just created (or updated earlier), here SmallExampleDoingBusiness120619.tpl. In the second screen you select the database (the ACCESS file) which contains all the existing data series (here ASIP_2012 V1.mdb). The third screen is shown below. It shows the indicators in the template file to be merged to the database. Click one by one and select the <import>. (Screen 2-5) button
This is to merge the indicators. If you update an existing template file, it might be that only new indicators have to be merged. Obviously not two indicators should be merged with identical names. However this may happen. How to cope with this will be explained later.
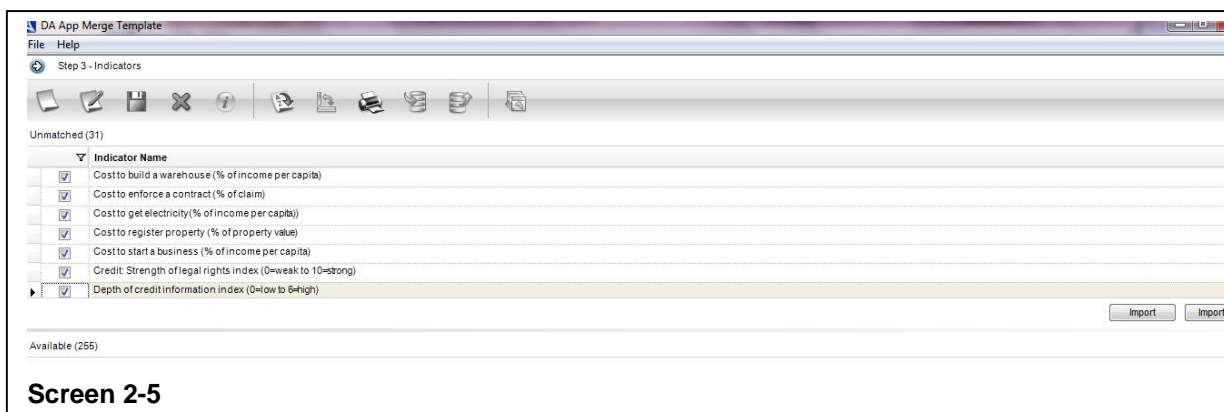
Screen 2-5

Next will be to import the new units

Screen 2-6

The next screen where there is something to be done (Step 8) adapts the sector structure or the "indicator classification". Remember that we related the indicators to 2 different sectors. These sectors do not exist in the database. We have to create new sectors.

If you will choose import, then new sectors will be created parallel to the ASIP node. We will deal with this problem later. In the example document mentioned above we mapped a sector structure to an existing one. That is a bit more complicated. Please look at the document [8] for further explanation

Screen 2-7
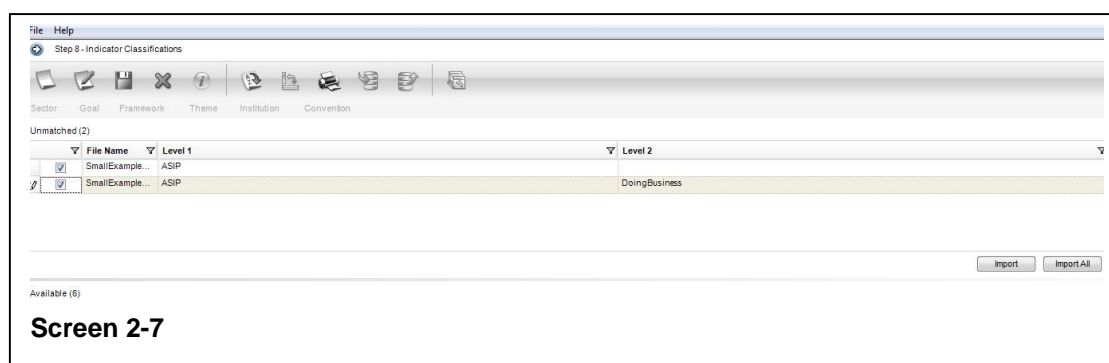
The data structure will be transferred to the database. If a sector has been created unintentionally and how this can be reversed will be explained later.

Nothing else has to be added to the database and so the <Step 10- Process> processes this merge between Template and Database. After clicking <Finish> at this step, the database has to be selected once more to make the merge finally take effect (this is a bit confusing that the database has to be selected twice). This results in a HTML page in your web browser to display the results of the merge. The number of indicators must have increased by 7.

Screen 2-8
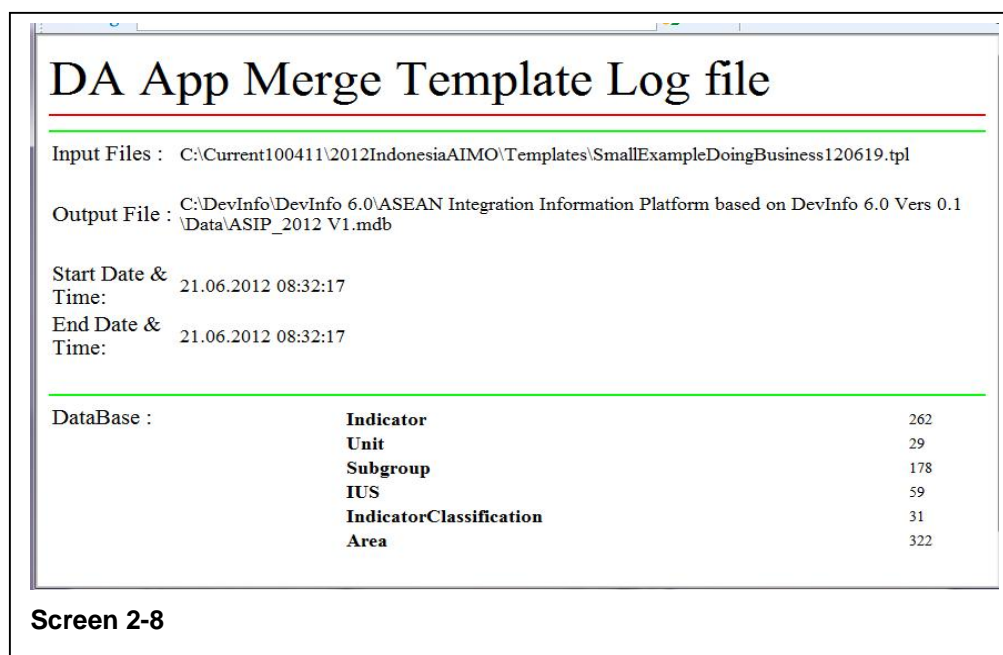
Metadata for Indicators

Now the indicators are not complete without metadata information: What these series mean and how they are calculated and their source:
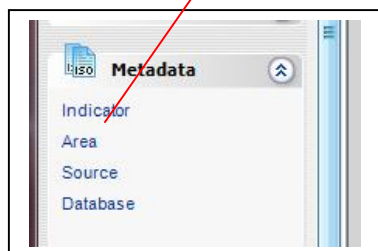
Select Indicator, select the database (here AIIP_2012 V2.mdb) Choose the new indicators, the indicators are sorted alphabetically. Click on the <Edit> Menu button Note that we have only two Metadata to add; the others did not have any further explanation The appearing box for the metadata should be empty. Fill the appropriate sections with text of metadata, finish clicking on <Ok> The entered text appears for verification. Proceed to the remaining indicators

All data entries should be completed with Metadata, Areas, Sources or the Database itself.

Screen 2-9

After this the database structure should be adapted as far as possible with the DevInfo 6.0 Data Admin Interface.
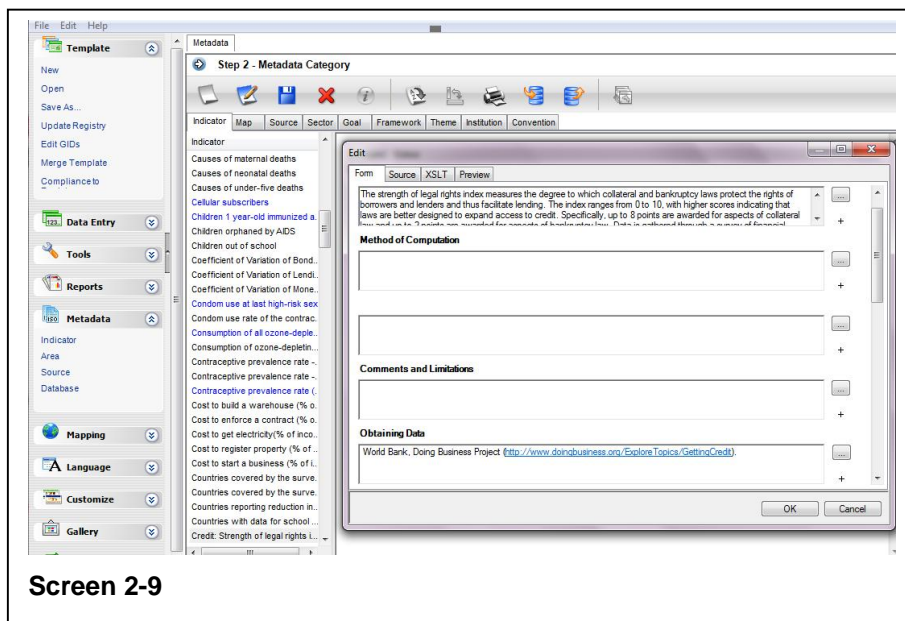
The structure adaptation of Areas is very similar and is explained in the standard the Data Base Administration Guide So far only the structure of indicators has been transferred to the database The next step to complete the update process would be the Data Entry. Before coming to the Data Entry with the Data Base Administration Software, some preliminary work has to be done.

If we look now at our modified database the structure looks like this. This is not exactly what we would like to have. Better all subsectors would be under one sector node called ASIP . We will see how to do it customizing ASIP with ACCESS tools but first we will enter the data.

Screen 2-10

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Data Entry to ASIP

Preparing Data for ASIP with EXCEL

There are several ways to fill the database with values for the indicators. The proposed way has bee experienced by the author and has proven to be 1.) rather quick, 2.) not very liable to errors.
Data series / Indicators are usually available in EXCEL
A typical example for on tf the indicators "Employment in agriculture (% of total employment)" are shown below. What is usually is missing is the calculation of corresponding indicators for the requested groups: Since we have indicators of percent, we cannot simply add the values for the different countries, e.g. ASEAN-10 is NOT the sum, of country's percentages but is rather the weighted average of

	A	B	C	D	E	F	G	H	I	J	K
1	Country Name	Country Co	Indicator Name	Indicator Code	2000	2001	2002	2003	2004	2005	2006
10	Brunei Darussalan	BRN	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS		1.4					
27	Cambodia	KHM	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	73.7	70.2					
44	Indonesia	IDN	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	45.3	43.8	44.3	46.4	43.3	44	42
51	Lao PDR	LAO	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS							
78	Malaysia	MYS	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	18.4	15.1	14.9	14.3	14.6	14.6	14.6
95	Myanmar	MMR	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS							
12	Philippines	PHL	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	37.1	37.2	37	36.6	36	36	35.8
29	Singapore	SGP	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS		0.9	0.8	0.9	0.8	1.1	1.3
46	Thailand	THA	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	48.8	46	46.1	44.9	42.3	42.6	42.1
63	Vietnam	VNM	Employment in agriculture (% of total employment)	SL.AGR.EMPL.ZS	65.3	64	62	59.7	57.9		51.7
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Formula for three countries (group IMT)

Screen 3-1

percentages. As a formula this reads $x_{weighted}= (x1*w1+x1w2..)/(w1+w2..)$ where x are he data values and w are the weights. Here the weights will be related to population size than means a more populated country (like Indonesia) will enter the calculation with a much higher weight that a small one like Brunei. The population weights are calculated form census data and for each year and country these weight differ slightly.
A typical calculation would look like this

C247 fx =+($C38*C$281+$C72*C$283+$C140*C$287)/+SUMME(C$281,C$283,C$287)

|	A	B	C	D	E	F	G	H	I	J	K	L	M
176													
177			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
179	Asean-10	Employment in agriculture (% of total employment)	42.21	42.21	42.21	42.22	42.23	42.23	42.23	42.21	42.20	42.18	42.17
196	ASEAN 6	Employment in agriculture (% of total employment)	42.05	42.02	42.00	41.99	41.96	41.94	41.91	41.87	41.83	41.80	41.78
213	CLMV	Employment in agriculture (% of total employment)	42.65	42.72	42.79	42.88	42.98	43.06	43.12	43.17	43.21	43.25	43.28
230	BIMP-EAGA	Employment in agriculture (% of total	41.23	41.21	41.18	41.16	41.14	41.11	41.10	41.08	41.06	41.04	41.03
247	IMT	Employment in agriculture (% of total employment)	43.94	43.92	43.89	43.87	43.85	43.84	43.82	43.80	43.79	43.77	43.75
263													
277	Pop												
278			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
279	Brunei Darussalam		0.00062653	0.00063143	0.00063631	0.00064119	0.00064589	0.00065064	0.00065549	0.00066037	0.00066518	0.00066996	0.00067457
280	Cambodia		0.02384551	0.02389691	0.02392825	0.02394389	0.02394176	0.02393389	0.02392425	0.0239123	0.02390073	0.02389922	0.02390766
281	Indonesia		0.40881693	0.40830767	0.40800516	0.40783355	0.40757099	0.40727831	0.40697514	0.40663892	0.40625398	0.40592795	0.40561958
282	Lao PDR		0.01018627	0.01021491	0.01023932	0.01026211	0.01028344	0.01030875	0.01034007	0.01037561	0.01041264	0.01045046	0.01048566
283	Malaysia		0.04485762	0.045258	0.04566746	0.04607113	0.04643643	0.04676601	0.04705996	0.04731982	0.04755371	0.04778748	0.04802586
284	Myanmar		0.08612862	0.08559573	0.08496158	0.0842799	0.08359907	0.08299754	0.08249526	0.08206856	0.08170051	0.08138816	0.08110502
285	Philippines		0.14810826	0.14912694	0.15019939	0.15129087	0.15231152	0.15328076	0.15420312	0.1550776	0.15591835	0.15679265	0.15770316
286	Singapore		0.00771654	0.00781475	0.00777911	0.00756473	0.00756089	0.00764339	0.00779085	0.00802671	0.00836781	0.00852773	0.00858465
287	Thailand		0.12099063	0.12067521	0.12041769	0.12017798	0.11987316	0.11950931	0.11908485	0.11859446	0.11804215	0.11747276	0.11688507
288	Vietnam		0.14872309	0.14847844	0.14816573	0.14793467	0.14777684	0.1476314	0.14747101	0.14732565	0.14718495	0.14708365	0.14700877

Screen 3-2

Note that the formulas have to be entered only once for each group and then can be copied across. This weight calculation (Population size per year divided by total sum of populations for all countries of that year) will apply for the first two series, the other data series (forest rent and textile as a % of manufacturing) of these selected examples should not be weighted according to the population size but rather by the economical capacity of the country. So the weight calculations of these two are by GDP weights (GDP per year divided by total sum of GDPs for all countries of that year). The calculation can be facilitated by EXCEL means.
Having all data series and groups completed, the use of Pivot table is very much recommended :<Data/ Pivot Table>[1] from EXCEL menu.
For profitable use of Pivot Tables please refer to the EXCEL online help or the many textbooks on this subject

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[1] The EXCEL Version for this example is Microsoft Office 2002/XP , other versions of Office packages will have other means of using Pivot tables
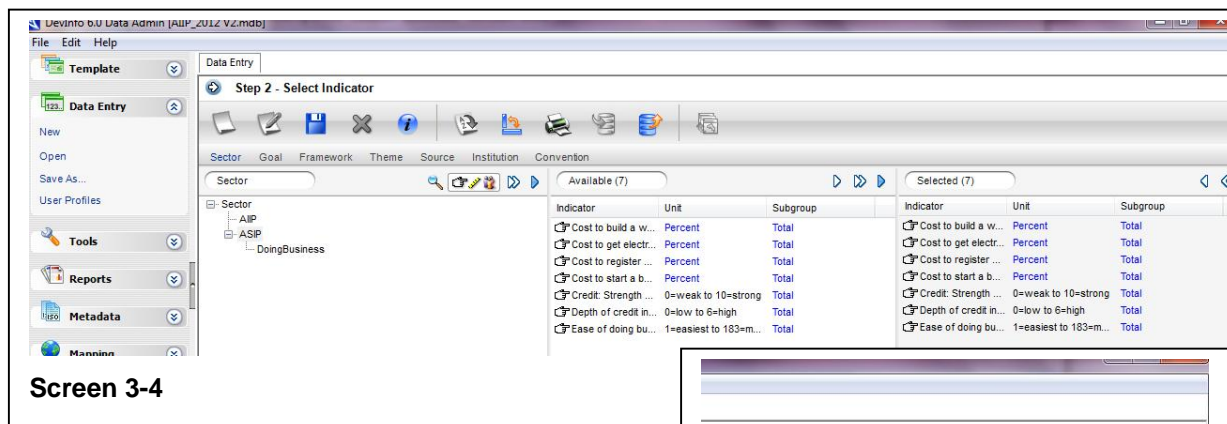
Screen 3-3

While the original data can contain a lot of information, it can be difficult to get summarized information. A pivot table can help quickly summarize the data and highlight the desired information. The usage of a pivot table is extremely broad and depends on the situation. The first question to ask is, "What am I looking for?" Here the answer will be: we would like to have the data in that format that it can be easily transferred to the ASIP database. The result adapted to the data requirements of the Data Entry section of the Data Base Administration Software would look like this (this is only part of the EXCEL Pivot Table for the first indicator), but data are displayed for an indicator, summing the values for years 2000 -2010 and for country groups and member countries Having prepared the data series this way we may continue with the Data Entry with the Data Base Administration Software
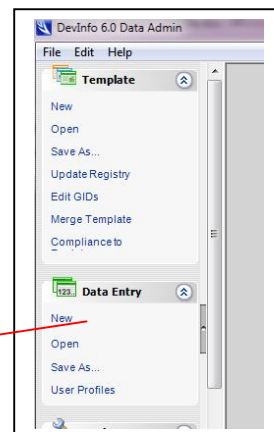
Data Entry to ASIP with the help of EXCEL

Now back to DI 6.0 Data Administration. Go to <Data Entry/ Open>, Select the data base (here ASIP_2012 V2.mdb). Notice that DB has been copied and renamed, this is useful to maintain cersion controlof Dbases. Then select the new indicators (Step 2). As you remember the sector structure has been modified before.
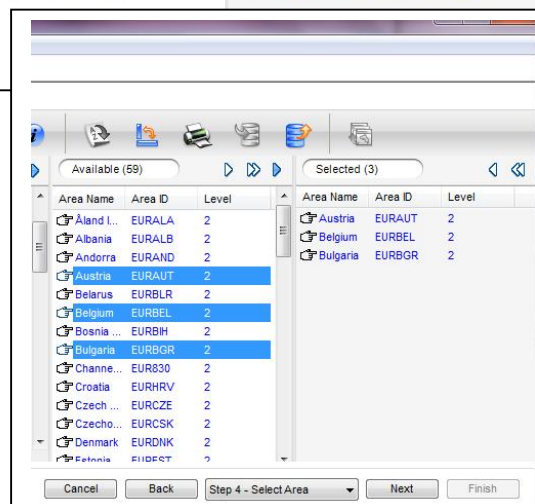

Screen 3-4

In the next step 3 select the years (2005-2011), the next step 4 allows to select the areas. Since we have now prepared data for the three countries Austria, Belgium and Bulgaria, the selection of the areas will look like screen 3.5
.
The next step 5 allows associating a source with the indicators. We choose the World Bank Group and the World Development Indicators (WDI)
Having done this, the proper Data transfer is done in step 6, when a list of Data Fields appears for the four selected indicators sorted in the same way we have

Screen 3-5

provided before in the EXCEL[2] Pivot table. The data fields are sorted first according to years, then according to countries.

Data	Country Name	Cost to build a warehouse (% of income per capita)	Cost to get electricity(% of income per capita)	Cost to register property (% of property y value)	Cost to start a business (% of income per capita)	Credit: Strength of legal rights index (0=weak to 10=strong)	Depth of credit information index (0=low to 6=high)	Ease of doing business index (1=easiest to 183=most difficult)
Sum of 2005	Austria			4,5	5,7	7	6	
	Belgium			12,8	11,1	7	4	
	Bulgaria			2,3	9,6	8	4	
Sum of 2006	Austria			4,5	5,6	7	6	
	Belgium			12,7	5,8	7	4	
	Bulgaria			2,3	7,9	8	5	
Sum of 2007	Austria			4,5	5,4	7	6	
	Belgium			12,7	5,3	7	4	
	Bulgaria			2,3	8,4	8	6	
Sum of 2008	Austria			4,5	5,1	7	6	
	Belgium			12,7	5,2	7	4	
	Bulgaria			2,3	2,0	8	6	
Sum of 2009	Austria		110,7	4,5	5,1	7	6	
	Belgium		91,0	12,7	5,3	7	4	
	Bulgaria		392,0	2,3	1,7	8	6	
Sum of 2010	Austria		113,0	4,5	5,2	7	6	28
	Belgium		96,7	12,7	5,4	7	4	27
	Bulgaria		397,1	3,0	1,6	8	6	57
Sum of 2011	Austria		110,8	4,6	5,2	7	6	32
	Belgium		95,3	12,7	5,2	7	4	28
	Bulgaria		366,6	3,0	1,5	8	6	59

PivotTable Field List — Drag items to the PivotTable report:
Country Name, Country Code, Indicator Name, Indicator Code, 2005, 2006, 2007, 2008, 2009, 2010, 2011

Screen 3-6

First Indicator data entry screen could be collapsed after entry
Second Indicator to proceed

The sorting order in Pivot Table and Data Entry Screen of Areas has to be same but the order in Pivot Tables can be modified easily dragging an area (country) to the appropriate position. Note that in the data field screen sometimes the countries are not in alphabetical order (like Indonesia is before Cambodia) because the order is defined by an internal area name (the Area ID), which is shown left of the plain country name. In this example however the order of Aera ID and Area (name) is the same. The data transfer is now easy. Mark the data area in screen 3-6 for the selected indicator (make sure that all data fields are selected in the EXCEL pivot table), select copy, and move to the first data filed of the corresponding indicator in screen 3-7 and select paste. All 21 data fields (7 years for 3 areas) will be transferred immediately. This procedure has to be repeated for the other 6 remaining indicators. Having transferred the data to the first indicator the data fields can be collapsed and the data entry can proceed until terminated with clicking <Finish>

Screen 3-7

The click of the <Finish> button initiates the writing of the data to the database. The results can then be verified by opening the ASIP comparing (e.g.) the results over the past 7 years here only in the selected 3 countries to make the table easier to read. The table is arranged like the EXCEL sheet for ease of comparison.

Doing Business in Austria, Begium and Bulgaria

Time Period	Area Name	Cost to build a warehouse (% of income per capita) Percent	Cost to get electricity (% of income per capita) Percent	Cost to register property (% of property value) Percent	Cost to start a business (% of income per capita) Percent	Credit: Strength of legal rights index (0=weak to 10=strong) 0=weak to 10=strong	Depth of credit information index (0=low to 6=high) 0=low to 6=high	Ease of doing business index (1=easiest to 183=most difficult) 1=easiest to 183=most difficult
2005	Austria	69,10		4,50	5,70	7	6	
2005	Belgium	61,60		12,80	11,10	7	4	
2005	Bulgaria	280,30		2,30	9,60	8	4	
2006	Austria	67,00		4,50	5,60	7	6	
2006	Belgium	59,40		12,70	5,80	7	4	
2006	Bulgaria	245,70		2,30	7,90	8	5	
2007	Austria	62,30		4,50	5,40	7	6	
2007	Belgium	54,80		12,70	5,30	7	4	
2007	Bulgaria	345,60		2,30	8,40	8	6	
2008	Austria	59,60		4,50	5,10	7	6	
2008	Belgium	56,50		12,70	5,20	7	4	
2008	Bulgaria	362,40		2,30	2,00	8	6	
2009	Austria	60,70	110,70	4,50	5,10	7	6	
2009	Belgium	55,00	91,00	12,70	5,30	7	4	
2009	Bulgaria	322,80	392,00	2,30	1,70	8	6	
2010	Austria	62,00	113,00	4,50	5,20	7	6	28
2010	Belgium	55,50	96,70	12,70	5,40	7	4	27
2010	Bulgaria	327,10	397,10	3,00	1,60	8	6	57
2011	Austria	60,80	110,80	4,60	5,20	7	6	32
2011	Belgium	53,60	95,30	12,70	5,20	7	4	28
2011	Bulgaria	317,00	366,60	3,00	1,50	8	6	59

Table / Data / Source / Keywords

Cancel   Back   Step 6 - Preview   Next

Screen 3-8

Administration of Content of ASIP

As mentioned before and seen in screen 2-10, the sectors would have to be rearranged. This unfortunately cannot be done in *DI 6.0 Data Administration*. What can be done with the *DI 6.0 Data Administration* should be done there but shortcomings of this interface are known and hopefully will be improved in the next version of DevInfo.
Since we are not going to wait until then, we have to learn something (for beginners) about ACCESS.

Customizing and change of ASIP with ACCESS tools

There are several activities with cannot be done with the Data Base Administration software. Already a very simple deletion of an indicator is not possible. So the database administrator needs some basic skills of ACCESS handling. This is not to say that this modification of the database is recommended but in some cases it is the only way: However please consider in general:

1. A basic understanding of ACCESS databases, how to handle tables is needed. Of course you need the Microsoft ACCESS software on your computer and you need administrator rights

2. Always use the Data Base Administration software first

3. Always make copies of your database, once it is corrupt, it is very difficult, sometimes impossible to restore.

The tables - note the three indicated tables in then topmost lines. Clicking on UT_Inidicator_en opens the right

Here the sector names preceded by IC_NID and IC_Parent_NID. These numbers are important for relating subsectors to sectors;

Name of indicators - data series, preceded by number of entry (latest entry has highest number)

Screen 4-1

With these menu buttons indicator series can be sorted (highest last or highest first) – The button is on the main menu after opening the indicator table

Open the database in ACCESS and view the Indicators

The ACCESS databases in DevInfo6.0 as all the adapted derivates are copy-protected the password to access the database is : <unitednations2000> (without brackets)
Clicking on a database file (here: ASIP_2012 V3.mdb- notice a copy has been made) , there are three tables worth of consideration in the context of this manual:

1. UT_Indicator_Classification_en (contains sectors and other indicator classifications)

2. UT_Indicator_en (contains the indicators – data series)

3. UT_Area_en (contains areas, countries, groups of countries and the countries related to these areas)

Now in the above screen 4-1 you have all the essential information. Note the number IC_Nid = 367 for the sector AIIP and IC_Nid = 524 for ASIP. The sector Doing Business has ASIP as a parent (IC_Parent_Nid=524) .

Modification of indicator's and relation to sectors in the ACCESS database

Now our problem is simple. We relate the Subsector Doing Business to AIIP instead of ASIP , i.e. change parent ID (IC_Parent_Nid=524 becomes IC_Parent_Nid=367) . What is left, is to delete the sector ASIP (has no indicators related any more and rename AIIP to ASIP.

Verification of results

Screen 4-2

As you can see in screen 4-2 the sector Doing Business has been related to the sector ASIP, which is the renamed sector AIIP in the previous version of the Data Base ASIP_2012 V3.mdb

This is a very simple example od using ACCESS to modify the data structure, a more elaborate example of relating Indicators to sectors is in the mentioned training manual [8].

The relationship of the tables in the ASIP / DevInfo database is shown in the Relationship diagram (Screen 4-3) called after opening the database in ACCESS ny <Tools/Relationships..>
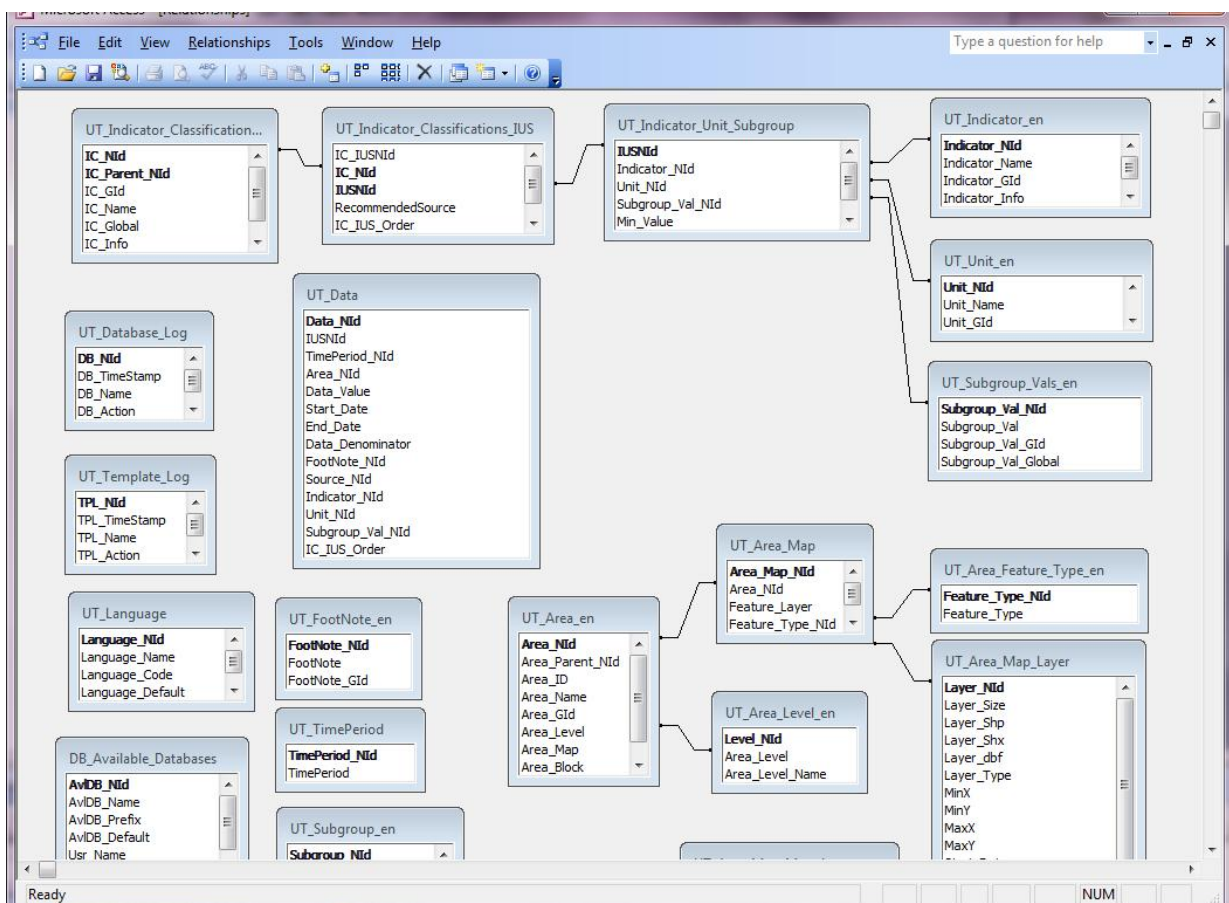
Screen 4-3

> For this short introduction this will be but the essential handling of an adapted system. With these indicated structured steps to modify the ASIP most of the necessary maintenance and adaptation should be feasible – Good Luck

References

[1] Charting Progress towards Regional Economic Integration ASEAN ECONOMIC COMMUNITY SCORECARD. ASEAN Secretariat, March 2010

[2] EU integration seen through statistics, European Commission, Eurostat, 2006 Edition

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[4] ASEAN Economic Community Blueprint Jakarta ASEAN Secretariat, January 2008

[5] Roadmap for an ASEAN Community 2009-20015 Jakarta ASEAN done with the help of the Secretariat, 2011

[6] ASEAN Community progress monitoring system COUNTRY INDICATORS and MONITORING TOOLS Vol 1 and 2 ASEAN and AusAID 2007

[7] ASEAN SINGLE WINDOW – ASEC Fact Sheet 2009

[8] AIIP Manual for Users and DB Admin111121.pdf