

# ADePT

## **Software platform for Automated Economic Analysis**

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# Step 1: Data and Output

ADePT - Automated DEC's Poverty Tables

[1] Data and Output | Options

Source data

Specify the location of data file(s):  
M:\PO\Zurab\Georgia data\ge2006.dta Choose...

Specify the label: 2006

2004 | M:\PO\Zurab\Georgia data\ge2004.dta  
2005 | M:\PO\Zurab\Georgia data\ge2005.dta  
2006 | M:\PO\Zurab\Georgia data\ge2006.dta

Add Remove

Show changes between periods: 2004 - 2006

Output file

Name of the output file:  
Poverty\_Georgia.xml Browse...

replace  append

Status  
File 'ge2006.dta' added

Help Reset Cancel <Back Next>

# Step 2: Household variables

The screenshot shows a software window titled "ADePT - Automated DEC's Poverty Tables". The window has a tabbed interface with the "Options" tab selected. The main area is divided into two sections: "Required variables" and "Household-level optional variables".

**Required variables:**

- Household ID: uid
- Urban or rural: urbanorrural
- Welfare aggregate: pce17
- Poverty line(s): LINE2 LINE1

**Household-level optional variables:**

- Weights: weights (with a "Survey Settings..." button next to it)
- Regions: regno
- Land area: sland
- Income: erncinc

At the bottom of the window, there is a "Status" field showing "Ready" and a row of navigation buttons: "Help", "Reset", "Cancel", "<Back", and "Next>".

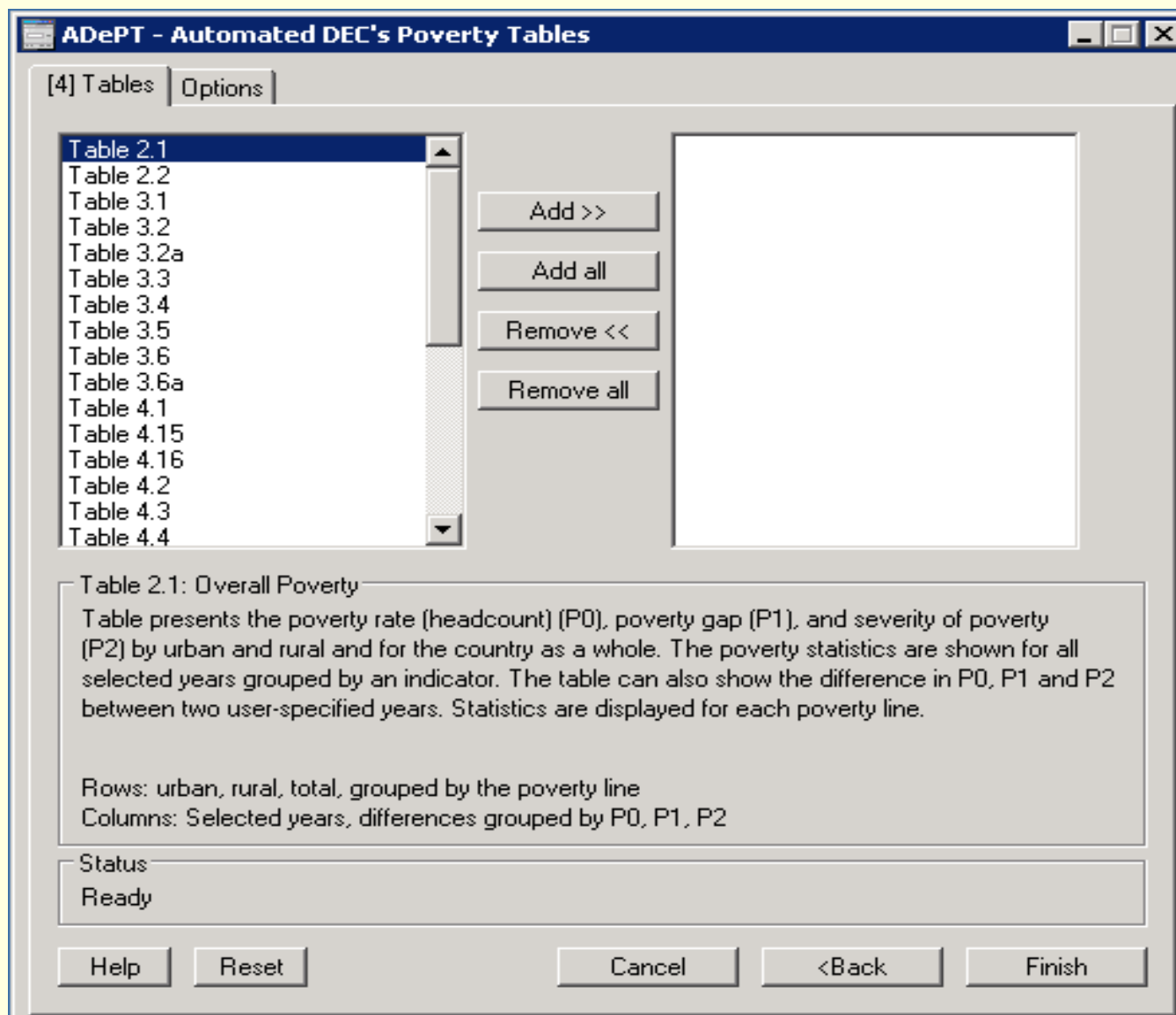
# Step 3: Individual variable

The screenshot shows a software window titled "ADePT - Automated DEC's Poverty Tables". The window has a tabbed interface with the first tab labeled "[3] Individual-level data" and a second tab labeled "Options". The main area is titled "Individual-level variables" and contains five rows, each with a label and a dropdown menu:

Household head:	rel
Age:	age
Gender:	gender
Education:	education
Economic status:	status

At the bottom of the window, there is a "Status" field displaying "Ready". Below the status field are five buttons: "Help", "Reset", "Cancel", "<Back", and "Next>".

# Step 4: Tables and Graphs



# Why automate?

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- To free resources for more meaningful and interesting tasks.
- Minimize human errors.
- Significantly speed-up production of basic results.
- Produce print-ready tables/graphs/reports
- Easily introduce new cutting-edge techniques and methods of poverty analysis.
- The automation tools could be used as valuable research instruments, tools for sensitivity analysis and educational tools.
- Might be helpful in situation of limited data access
- Simple checking of previous reports/results

# ADePT Poverty: Tables and Graphs

- Tables and graphs are selected based on PA from: *Bulgaria, Bangladesh, Honduras, Georgia, Jordan, Mongolia, Nepal, Sri Lanka, Ukraine*
- The program automatically generates the list of tables/graphs that could be produced based on the defined variables.
- Three versions of each table: actual table, table with standard errors, table with frequencies in each cell.
- Users can apply “IF” conditions and change titles of the tables/graphs.
- **ADePT** was tested on datasets from *Georgia, Jordan, Serbia, Ukraine, Montenegro, Russia, Romania, Lesotho, Gambia.*

# ADePT Poverty: Data and Variables

- Accepts individual-level data in STATA format
- One or more years (*8 years tested so far*) of data
- **Required variables:**
  - Household ID
  - Consumption aggregate: per person or per equivalent adult
  - Poverty line: up to two lines, numbers or variables
  - Urban-rural indicator
- **Optional variables:**

■ Regions	Weights
■ Land-ownership	Income
■ Relation to the head	Age
■ Gender	Education
■ Employment Status	More could be added ...

# ADePT Poverty: Checks and filters

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- All variables are checked:
  - Correct type of variables
  - Correct values (e.g., gender has only 2 values).
  - Presence of a variable in all data files.
  - Variable consistency over the years of data
- All the constructed variables are generated automatically: household size, shares of different age/gender groups, etc.
- The program produces a report with basic statistics on all variables and a list of errors, warnings and notes about the variables used in the analysis
- Control for influential outliers in terms of values or observations.

# **ADePT Poverty: Tables and Graphs**

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- Report on variables in every dataset
- Report on possible errors in variables, inconsistencies between the datasets, other warnings and notes
- Overall Poverty, Expenditure Inequality
- Decompositions of poverty changes
- Poverty profiles by socio-demographic categories
- Consumption regressions
- Poverty simulations
- Sensitivity analysis

# **ADePT Poverty: Save time and money**

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- Time Saving (tabulations only, no data cleaning)
  - Qualified consultant will spend on average 2 weeks (10 days) to construct all the tables produced by **ADePT**.
  - The typical PA would require 5-6 runs on these tables.
  - Total time saving is about 8 weeks or 40 days to do the work that **ADePT** could finish in several hours (on a good day)
- Conservative estimates of the Cost Saving from using **ADePT**: \$12,000 per PA or \$180,000 for 15 PA a year (average over the last 8 years).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	<b>Table 2.1: Overall Poverty</b>														
2		Headcount Rate(P0)					Poverty Gap(P1)					Squared Poverty Gap(P2)			
3		2004	2005	2006	change		2004	2005	2006	change		2004	2005	2006	change
4	<i>Poverty Line = 75.4</i>														
5															
6	<b>Urban</b>	26.5	29.0	30.8	4.4		8.0	8.9	9.3	1.3		3.5	3.9	4.0	0.6
7	Standard Error	1.47	1.40	1.64			0.55	0.54	0.62			0.28	0.31	0.33	
8	<b>Rural</b>	27.9	36.5	31.1	3.2		9.9	12.6	10.9	0.9		5.1	6.3	5.5	0.4
9	Standard Error	1.68	1.96	1.71			0.88	0.94	0.85			0.60	0.62	0.54	
10															
11	<b>Total</b>	27.2	32.9	31.0	3.8		9.0	10.8	10.1	1.1		4.3	5.1	4.8	0.5
12	Standard Error	1.12	1.22	1.19			0.53	0.55	0.53			0.34	0.35	0.32	
13															
14	<i>Poverty Line = 45.2</i>														
15															
16	<b>Urban</b>	8.2					2.0	2.3	2.4	0.4		0.8	0.9	1.0	0.2
17	Standard Error	0.72							0.27			0.10	0.14	0.13	
18	<b>Rural</b>	11.1							4.0	0.2		1.9	2.2	1.9	0.0
19	Standard Error	1.15							0.49			0.36	0.36	0.29	
20															
21	<b>Total</b>	9.7	11.4	10.7	1.1					0.3		1.4	1.6	1.4	0.1
22	Standard Error	0.9	0.75	0.9								0.19	0.20	0.16	
23															
24															

Table 2.1 Original

Table 2.1 with Standard Errors

Table 2.1 Frequencies

## **ADePT Poverty:** Testimonials (Romania)

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*...We sent the available variables needed to use the program, and the results were sent to us via e-mail within 10 minutes.*

*...Tables and graphs are extremely useful and provide a wide range of cuts on the data. Is there any chance to share the application with us? The outputs save a lot of time and some of them are really impressive...*

## ADePT Poverty : Testimonials (Russia)

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*I write to express our appreciation and thanks for this superb tool that you've developed. We have been working this past week at the ROSSTAT premises in Moscow on updating the earlier Russia PA analysis with 2003-2006 HBS data, and, thanks to the prototype, have been able to make very good progress with the work in a very short amount of time.*

Note: We were informed that this analysis took almost an hour to complete as the dataset contained more than 1,000,000 observations.

# **ADePT Poverty:** Testimonials

## Ukraine and Montenegro

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**Ukraine:** *Thank you so much for sending me the Ukraine Poverty profile. This was very helpful. In fact, it was just-in-time delivery, since I am rewriting the Poverty Update for a final review meeting....*

**Montenegro:** *Thanks a lot for running ADePT on Montenegrin data. It's a great (and super-fast :-)) tool for any preliminary assessment of the poverty situation in any country, and it frees a lot of time for the researcher.*

# ADePT Labor

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- Automated analysis of the Labor Market conditions in the low- and middle-income countries
- Developed jointly with PREMPR and with inputs from HDNSP
- Based on “[Guide for Assessing Labor Market Conditions in Developing Countries](#)” by PREMPR, HDNSP, and HDNED
- Generates about 40 tables with indicators for assessing the static and dynamic labor market conditions.

**ADePT Labor - some description**

[2] Variable definitions 1 Options About

Individual-level variables

Age*:	agey	Household Head:	relat
Gender:	sex		
Education:	education		
Ethnicity/race:	ethnic		

Economic status

Employed*:	occupat==1	Work Category*:	w_type
Unemployed*:	occupat==2	Sector of Activity:	sector_1job
Discouraged:	occupat==5	Agriculture:	sector_1job==1

Earnings\*:

earnings

Status

Help Reset Cancel <Back Next >

# ADePT Labor

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- Can be used with LSMS, LFS, or any individual-level dataset
- Extensive set of data controls and filters
- Testing stage in PREMPR
- Nicaragua, Rwanda, Madagascar, Brazil

# ADePT MAPS

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- Output any economic indicator on a geographical country maps by combining GIS files of geographic information with the user-provided datasets
- Maps could be produced using any micro-level dataset – LSMS, DHS, LFS
- Simple, three-step setup. Produces print-ready, high quality maps.
- Ability to build maps interactively
- India, Bangladesh, Afghanistan, Ukraine, Russia, Georgia

**ADePT Mapping Module**

Main | Titles and labels | Map rendering | Method | Legend | Points | Extras | About

1. Load a Stata dataset or an ADePT configuration file

Specify the data file:

2. Map file and regional identifier

Select country:

Specify regional variable:

3. Variables

Select variable of interest:

Select function:

Welfare aggregate:

Poverty line:

Weights:

Period (ADePT configuration files only)

Year

Change

Information

Status:

Progress:

# ADePT MAPS

**GIS**

**GIS\_Regions**

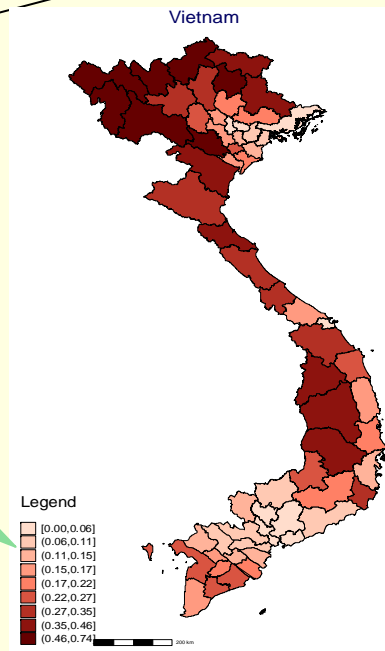
- Adilabad
- Agra
- Ahmadaba
- Ahmadnag
- Aizawl
- Ajmer
- Akola
- Alappuzha
- Aligarh
- Allahabad
- Almora
- Alwar
- Ambala

**Data**

**DATA\_regions**

- 7951
- 8662
- 4470
- 2217
- 7823
- 4196
- 7967
- 7757
- 1103
- 9220
- 6565

- Labor
- EDU
- Health
- Poverty
- Gender



# ADePT: The roadmap

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- **ADePT Poverty:** Public Release – June 2007
- **ADePT MAPS:** Public Release – October 2007
- **ADePT Labor:** Public Release – November 2007
- **ADePT Gender:** Public Release – February 2008
- **ADePT EDU:** Development stage
- **ADePT HEALTH:** Development stage
- **ADePT PLINES:** Development stage
- Set of tools to simplify the construction of consumption aggregates.