KIWI
A Stata add-on package to explore BLS CE PUMD

Walt Lake

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Financial Security and Mobility Project

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Motivation for project

- Research question: How has American household consumption changed over time given shifts in family structures?
- Best way to answer: Use BLS Consumer Expenditure Survey public use micro data to explore aggregate and household level changes since 1980.

Seemed like a simple enough task...

BLS Consumer Expenditure Survey Public Use Micro Data

The CE dataset comes with a warning:
The CE PUMD is a large, complex dataset that requires an extensive time commitment by users to study the documentations to learn how to use the data appropriately. In addition to the time needed to learn how to use the files, users must also have a good working knowledge of an advanced statistical software package, such as SAS, SPSS, or STATA, to manipulate the files." BLS (2013)

Difficulties Working with BLS Micro Data

- Some examples of difficulties when using as a time series.
  - Inconsistent variable format across time periods.
  - Coding for some variables differs when looking across time(e.g. Race in 1996 versus Race in 2004).
  - Key variables are missing completely for some years (e.g. FINCBTAX 2004-2005).
  - Similar issue exists with file names, multiple iterations every few years.

Easier Access

Enhance access to CE survey data by creating a tool for potential researchers

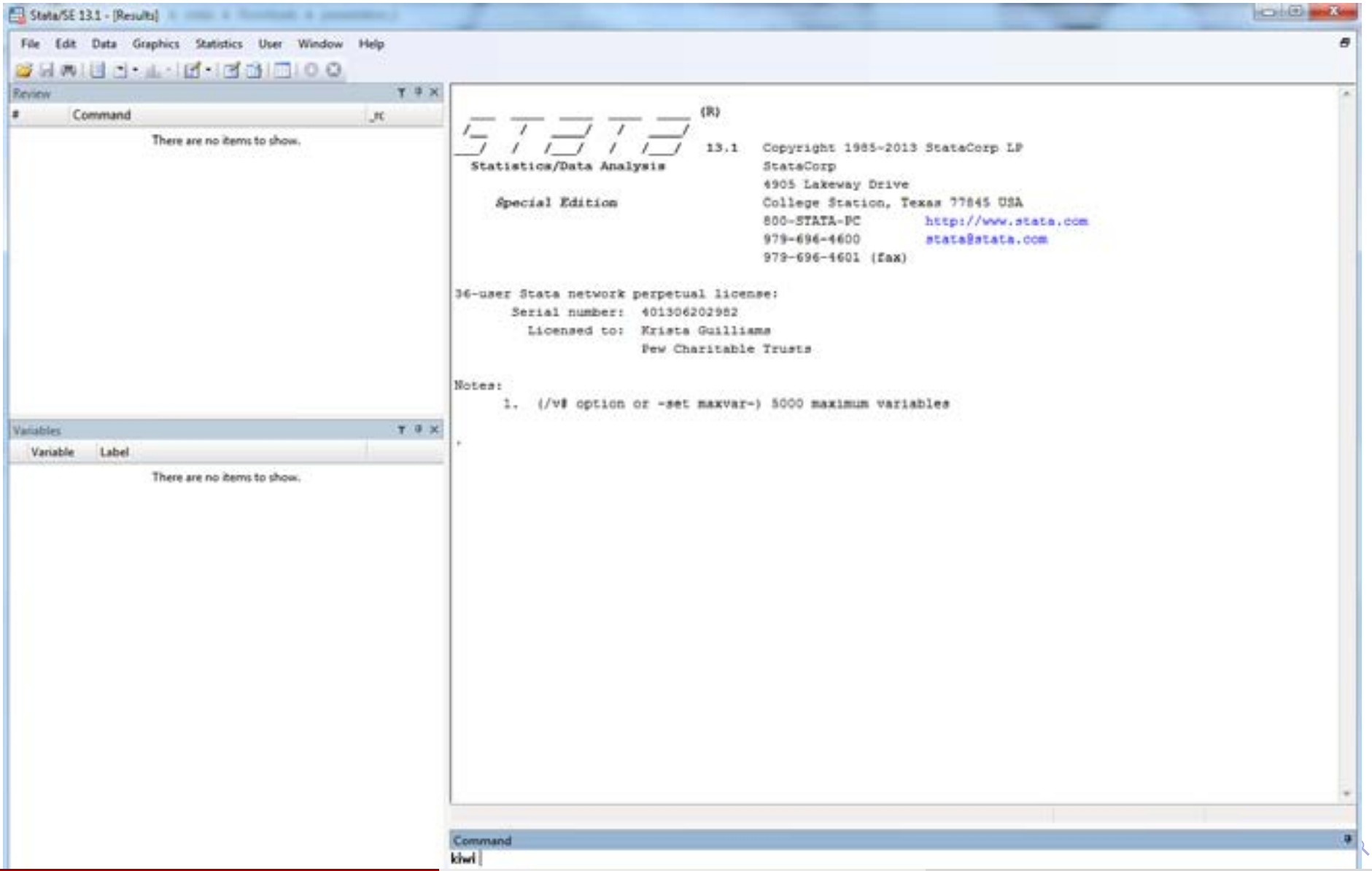
- Create a graphical interface for a less intimidating user experience
- Create a "Point & Click" environment
- Sandbox the user experience
- Create a platform that will allow users of all skill levels to access the data

Introducing Kiwi

Kiwi, a STATA package for exploring BLS CE Survey Micro data

- Aggregates data
- Creates and displays weighted means
- Calendar or collection year
- Adjust for inflation using CPI-U
- Allows for grouping data by up to two categories
- Displays a rudimentary plot of the data

Kiwi Demo


Stata/SE 13.1 - [Results]
File Edit Data Graphics Statistics User Window Help
Review
Command
There are no items to show.
Variables
Variable Label
There are no items to show.
(R)
13.1
Copyright 1985-2013 StataCorp LP
Statistics/Data Analysis
StataCorp
4905 Lakeway Drive
Special Edition
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800-STATA-PC http://www.stata.com
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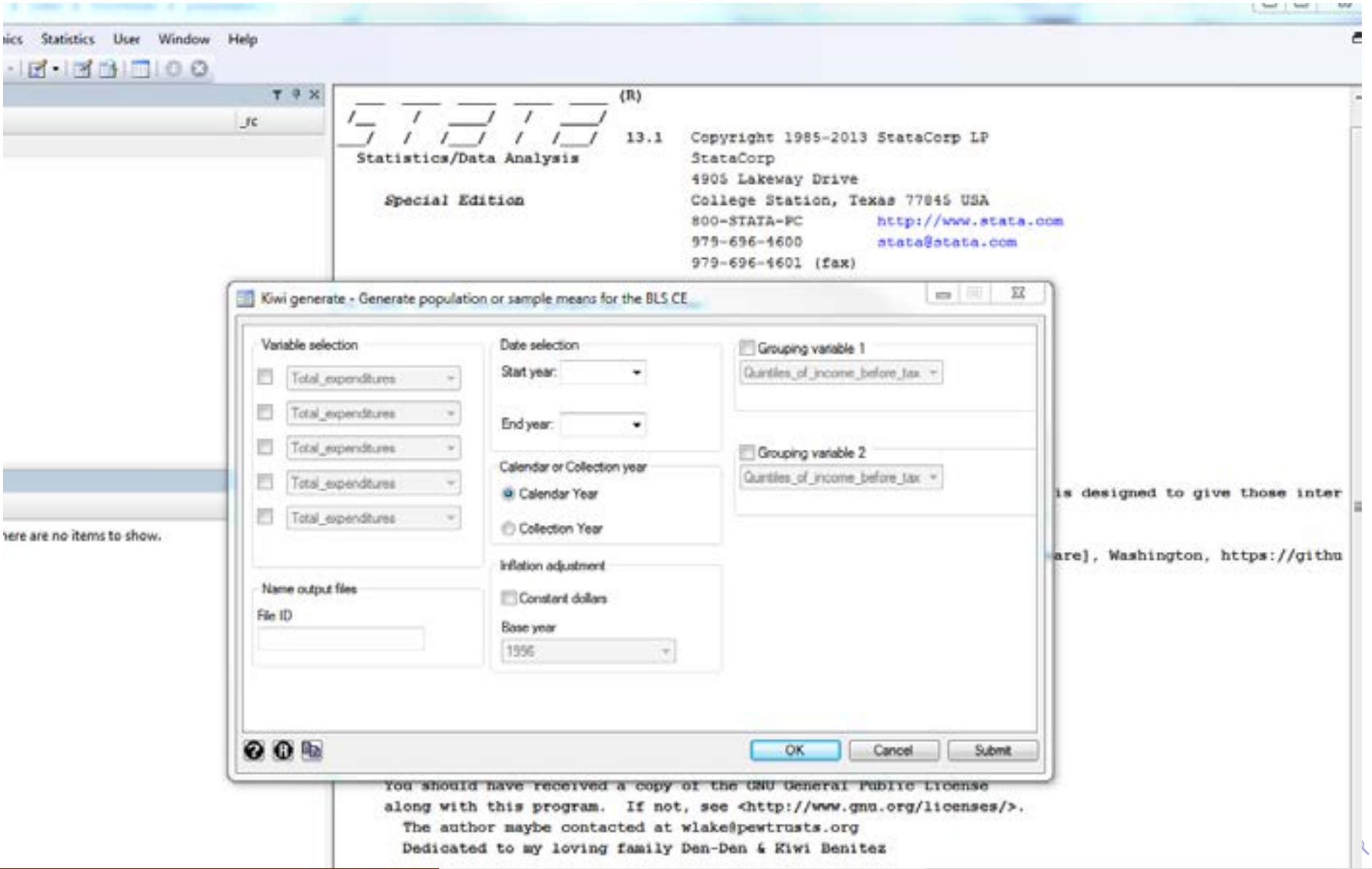
Serial number: 401306202982
Licensed to: Krista Guilliams
Pew Charitable Trusts
Notes:
1. (/v# option or -set maxvar-) 5000 maximum variables
Command
kiwi

Kiwi Demo


Statistics
User
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Help
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13.1
Copyright 1985-2013 StataCorp LP
StataCorp
4905 Lakeway Drive
College Station, Texas 77845 USA
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http://www.stata.com
979-696-4600
stata@stata.com
979-696-4601 (fax)
Statistics/Data Analysis
Special Edition
Kiwi generate - Generate population or sample means for the BLS CE
Variable selection
Total_expenditures
Total_expenditures
Total_expenditures
Total_expenditures
Total_expenditures
Date selection
Start year:
End year:
Calendar or Collection year
Calendar Year
Collection Year
Inflation adjustment
Constant dollars
Base year
1996
Grouping variable 1
Quintiles_of_income_before_tax
Grouping variable 2
Quintiles_of_income_before_tax
Name output files
File ID
OK
Cancel
Submit
here are no items to show.
is designed to give those inter
are], Washington, https://githu
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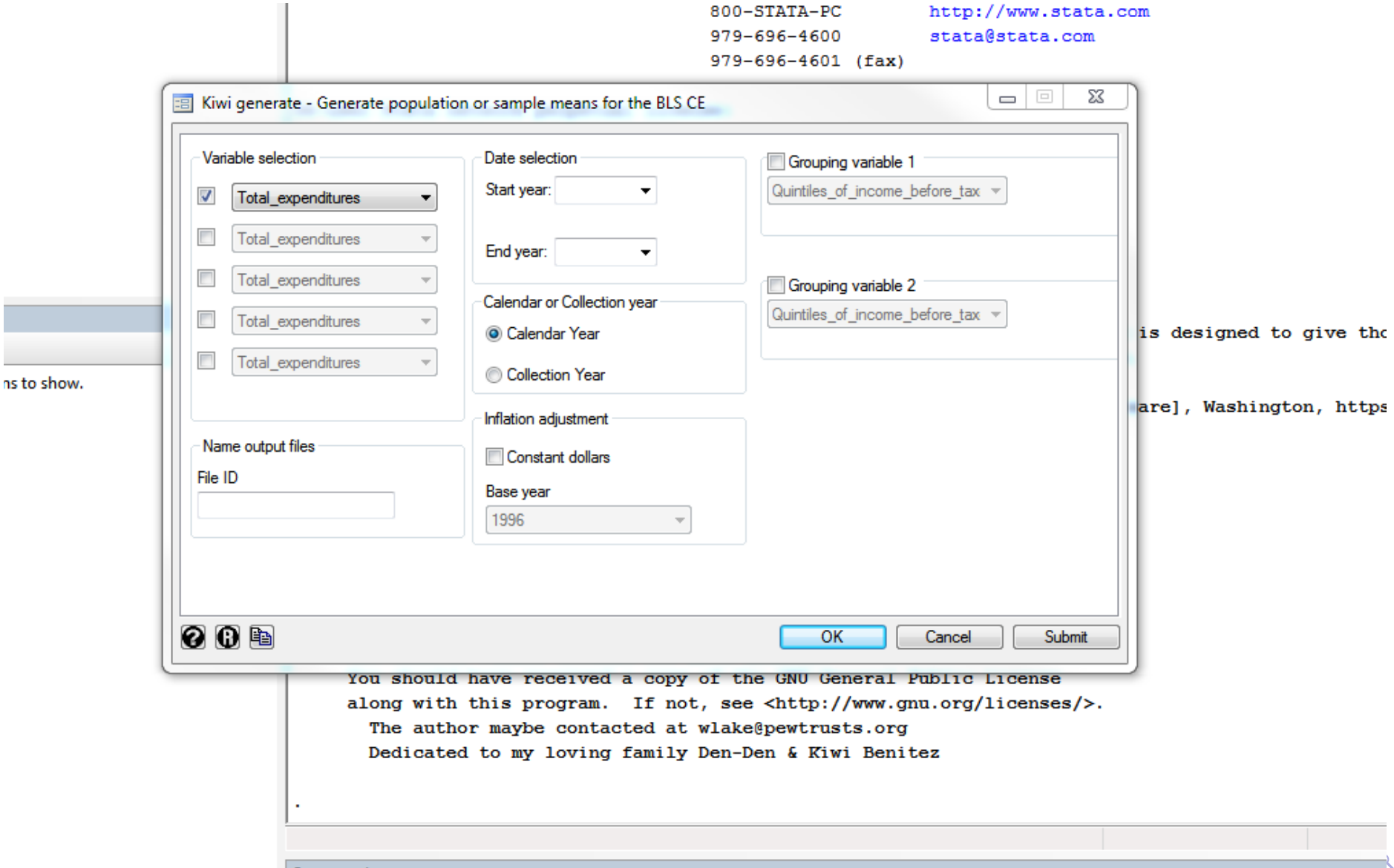
along with this program. If not, see <http://www.gnu.org/licenses/>.
The author maybe contacted at wlake@pewtrusts.org
Dedicated to my loving family Den-Den & Kiwi Benitez

Kiwi Demo


800-STATA-PC http://www.stata.com
979-696-4600 stata@stata.com
979-696-4601 (fax)
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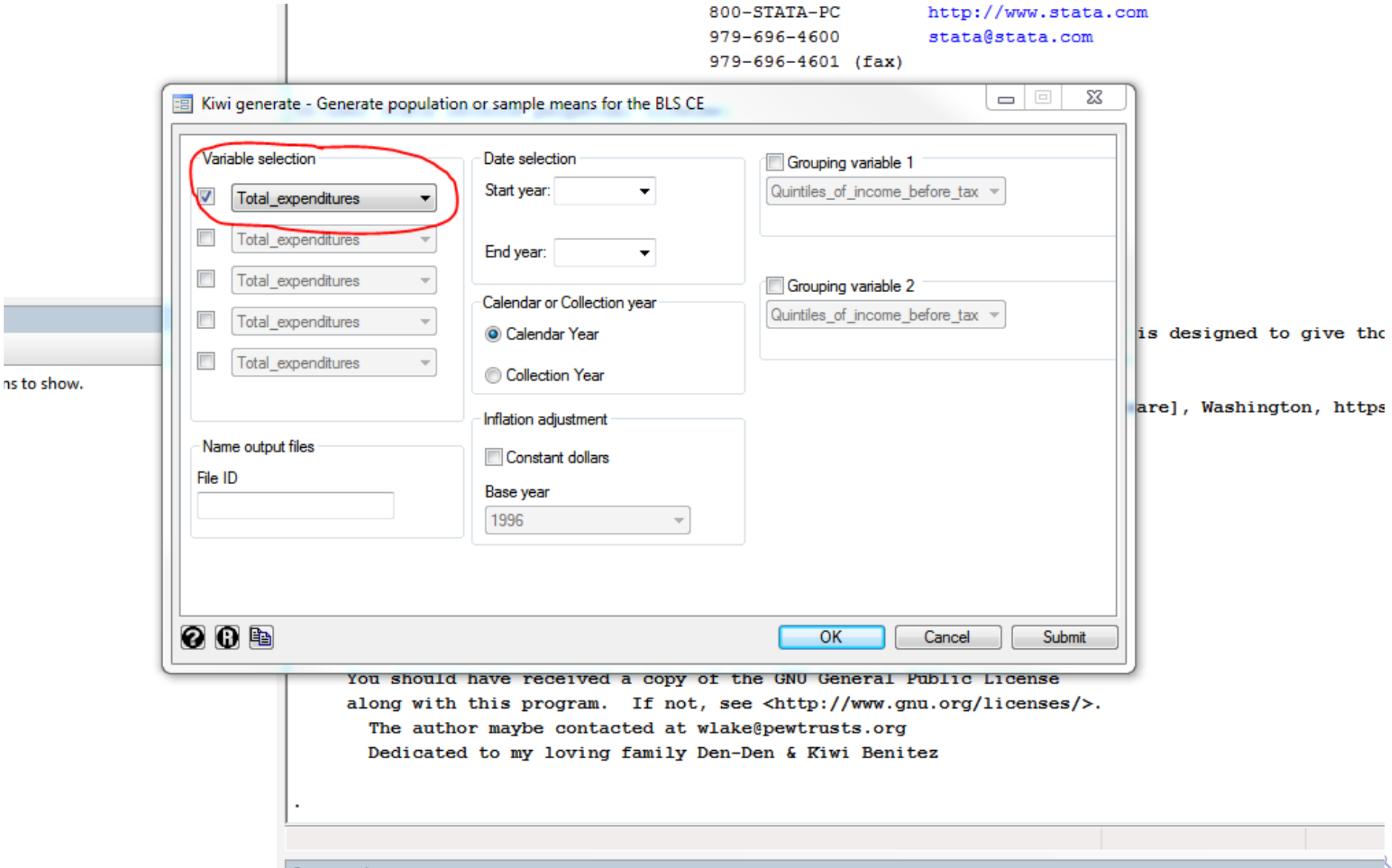
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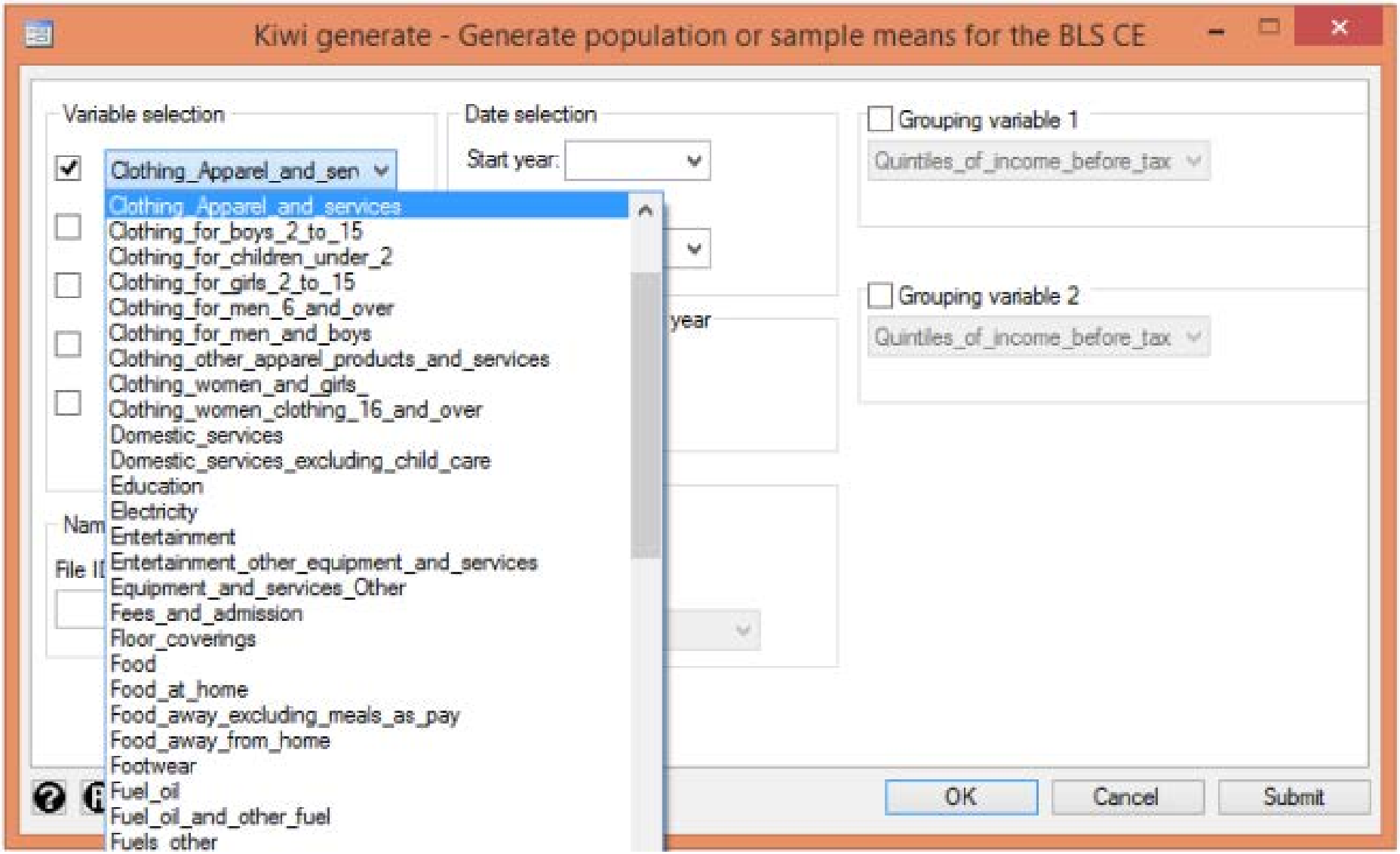
Kiwi generate - Generate population or sample means for the BLS CE
Variable selection
Clothing_Apparel_and_ser
Clothing_Apparel_and_services
Clothing_for_boys_2_to_15
Clothing_for_children_under_2
Clothing_for_girls_2_to_15
Clothing_for_men_6_and_over
Clothing_for_men_and_boys
Clothing_other_apparel_products_and_services
Clothing_women_and_girls_
Clothing_women_clothing_16_and_over
Domestic_services
Domestic_services_excluding_child_care
Education
Electricity
Entertainment
Entertainment_other_equipment_and_services
Equipment_and_services_Other
Fees_and_admission
Floor_coverings
Food
Food_at_home
Food_away_excluding_meals_as_pay
Food_away_from_home
Footwear
Fuel_oil
Fuel_oil_and_other_fuel
Fuels_other
Date selection
Start year:
year
Grouping variable 1
Quintiles_of_income_before_tax
Grouping variable 2
Quintiles_of_income_before_tax
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Cancel
Submit

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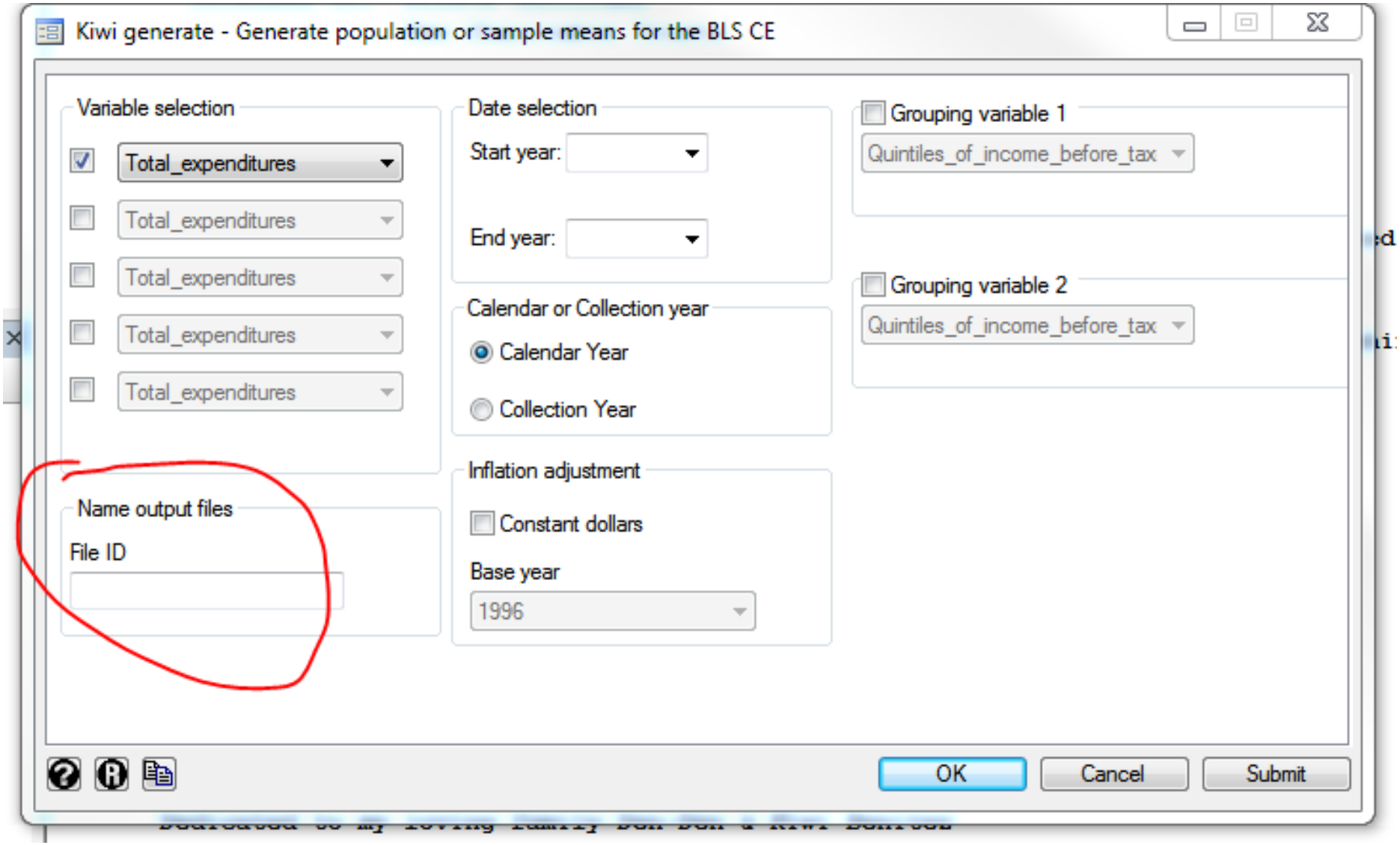
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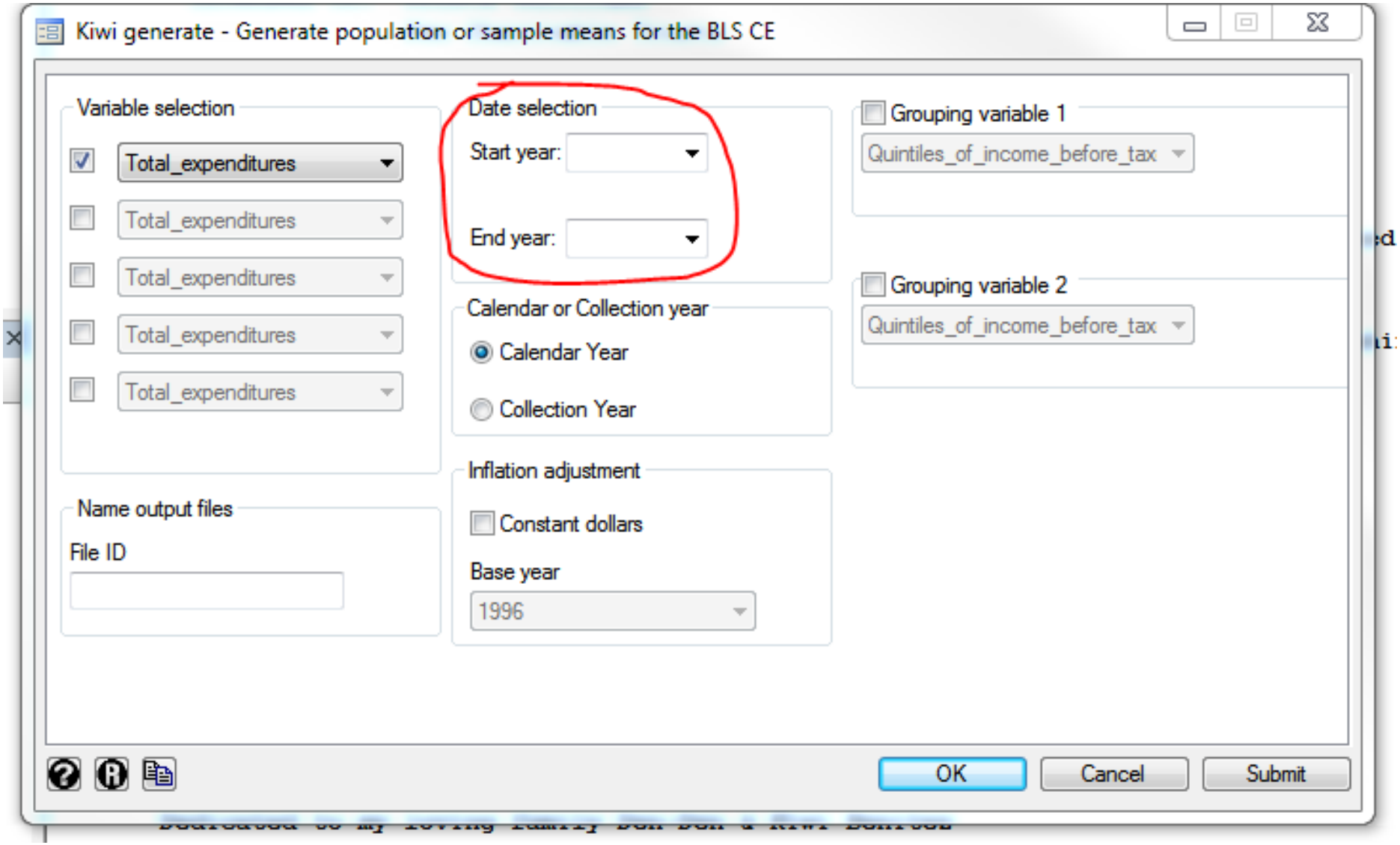
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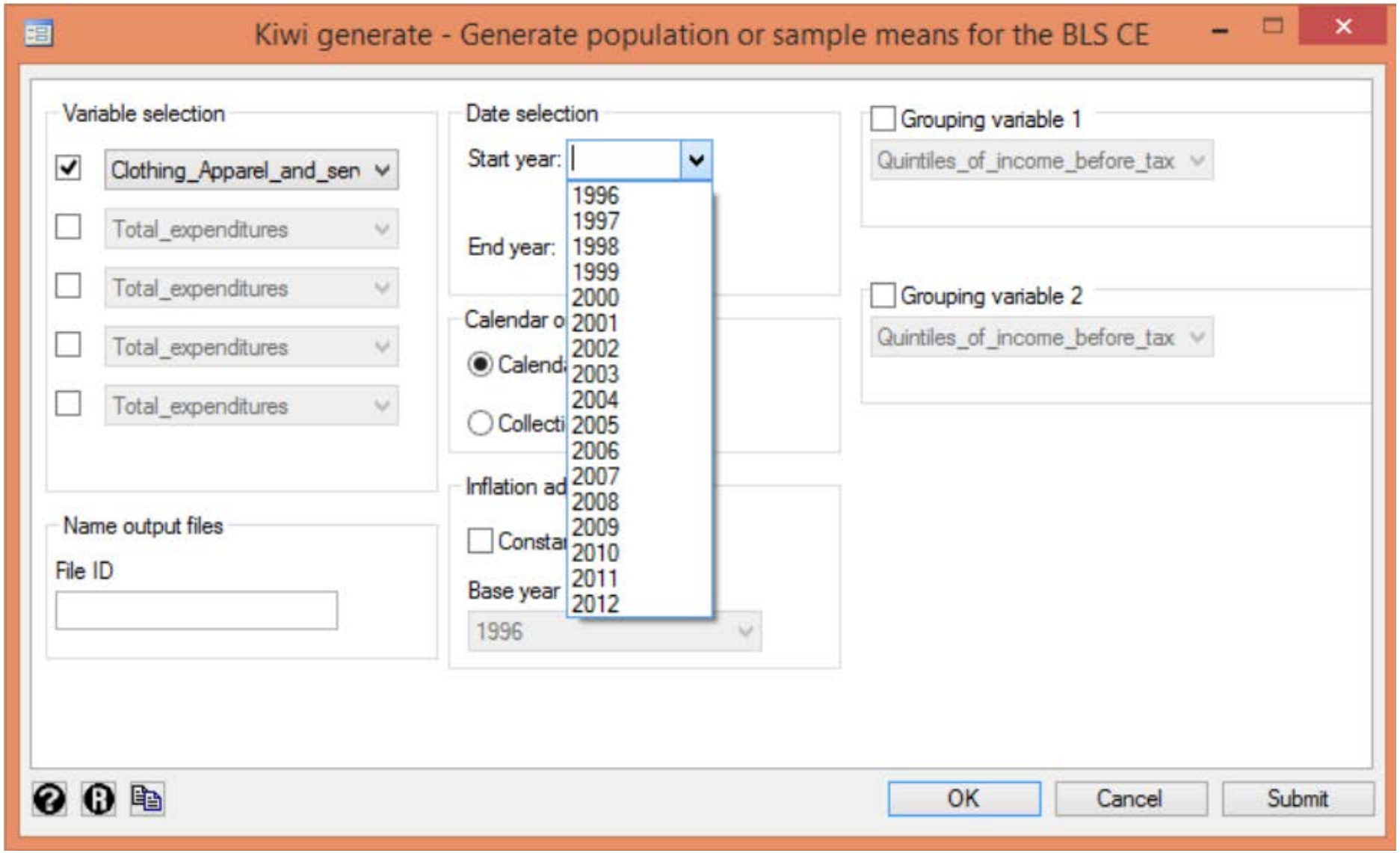
Kiwi generate - Generate population or sample means for the BLS CE
Variable selection
Clothing_Apparel_and_ser
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Total_expenditures
Date selection
Start year:
End year:
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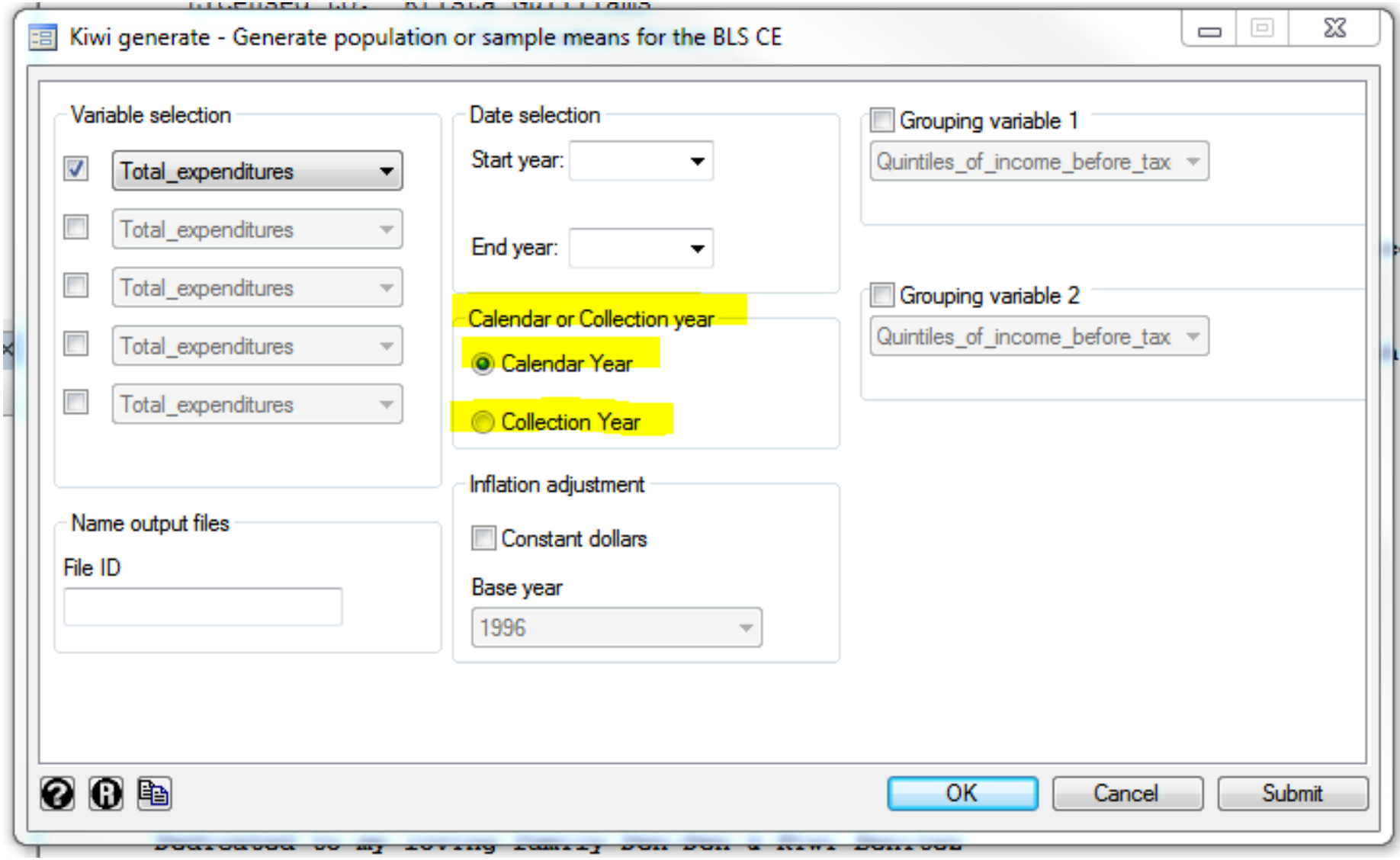
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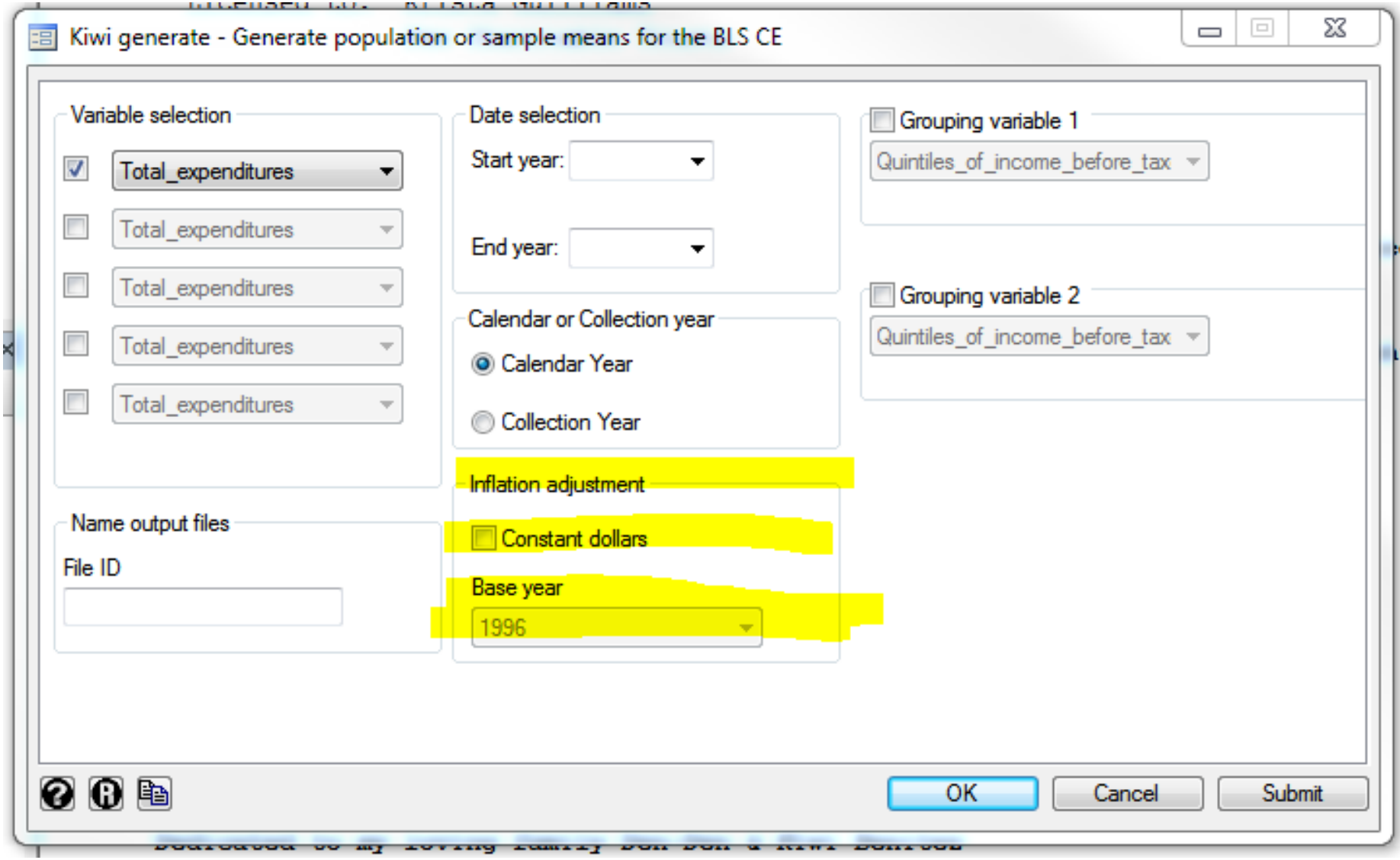
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Constant dollars
Base year
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File ID
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Submit

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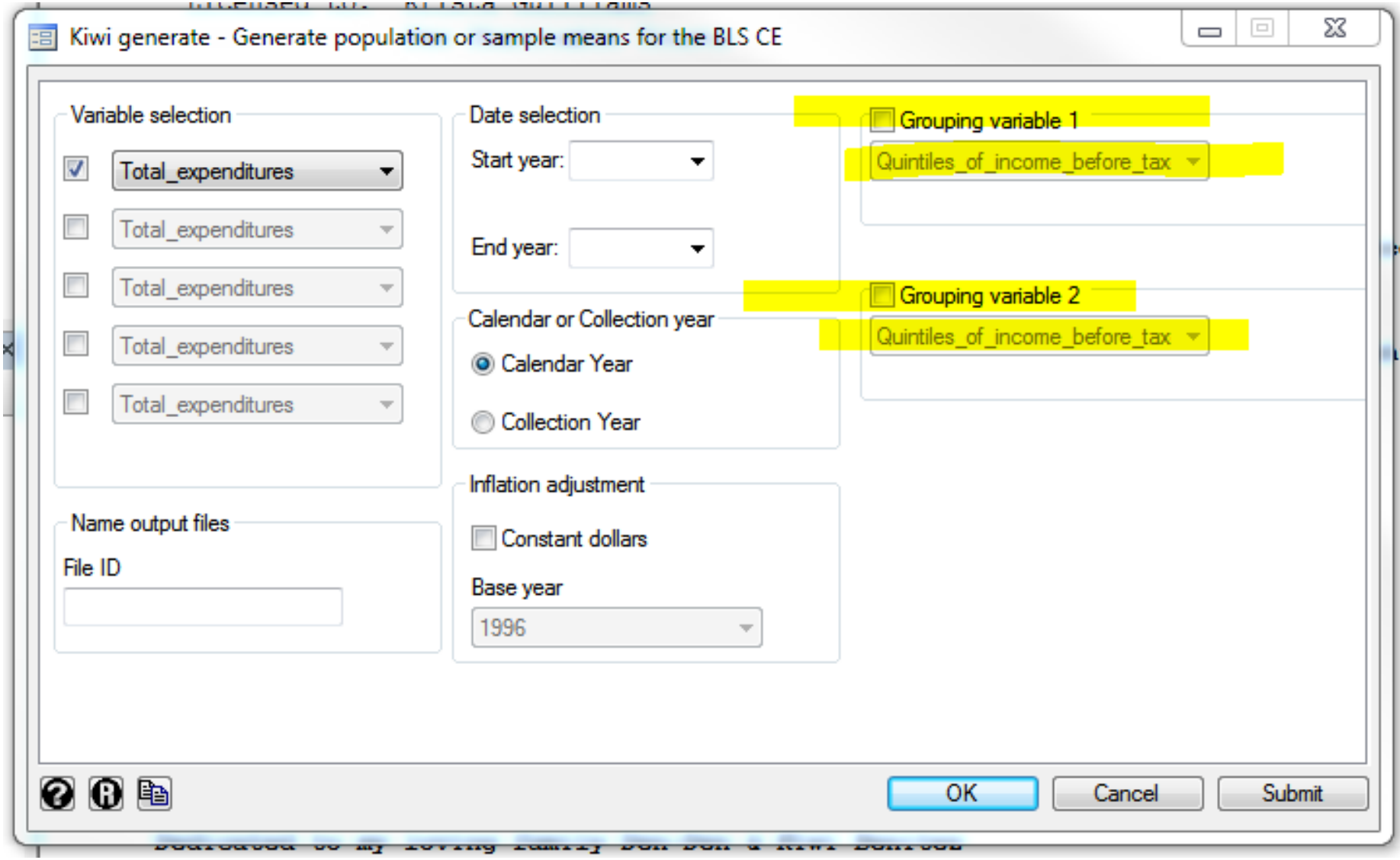
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Constant dollars
Base year
1996
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File ID
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Quintiles_of_income_before_tax
Grouping variable 2
Quintiles_of_income_before_tax
OK
Cancel
Submit

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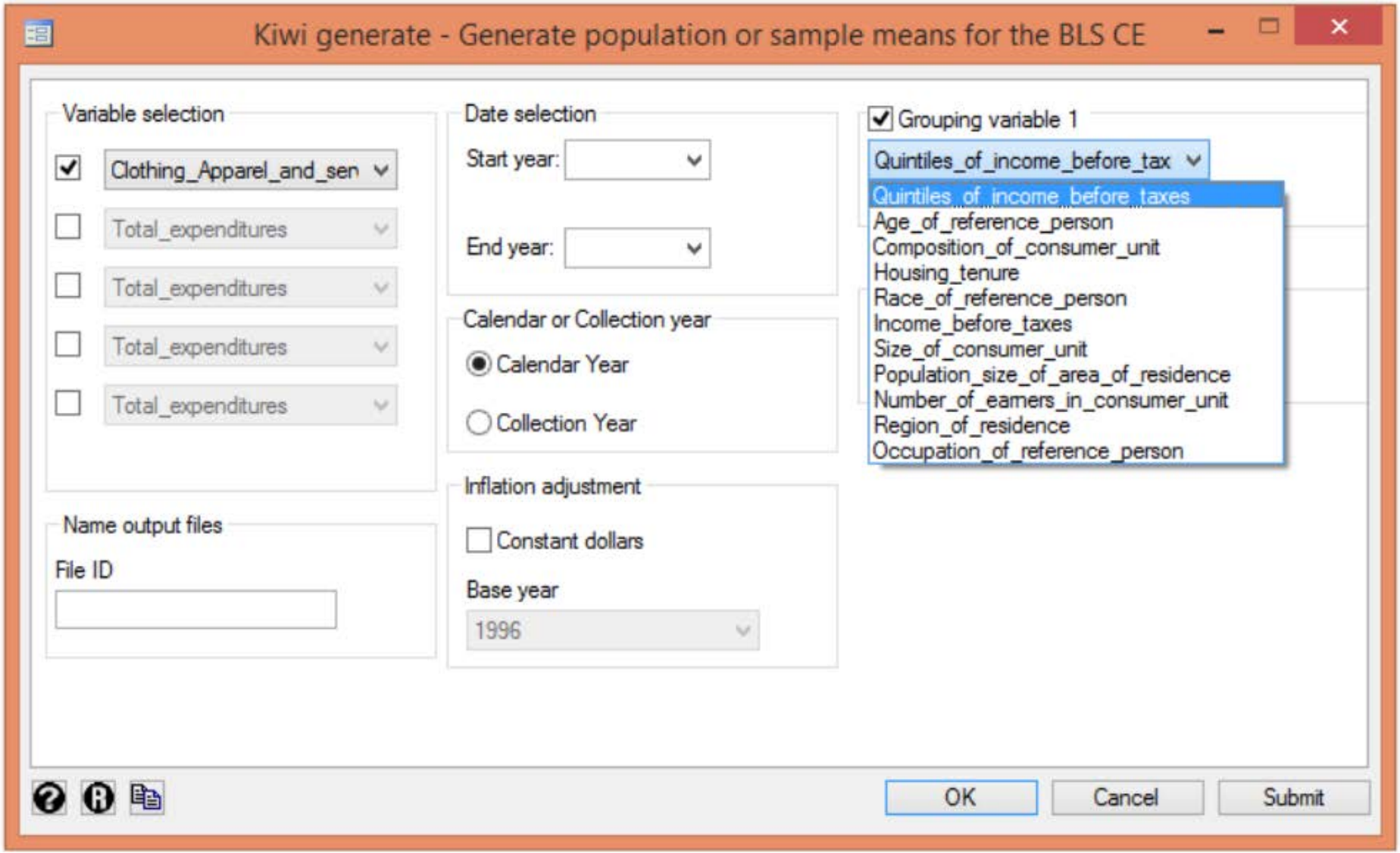
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Total_expenditures
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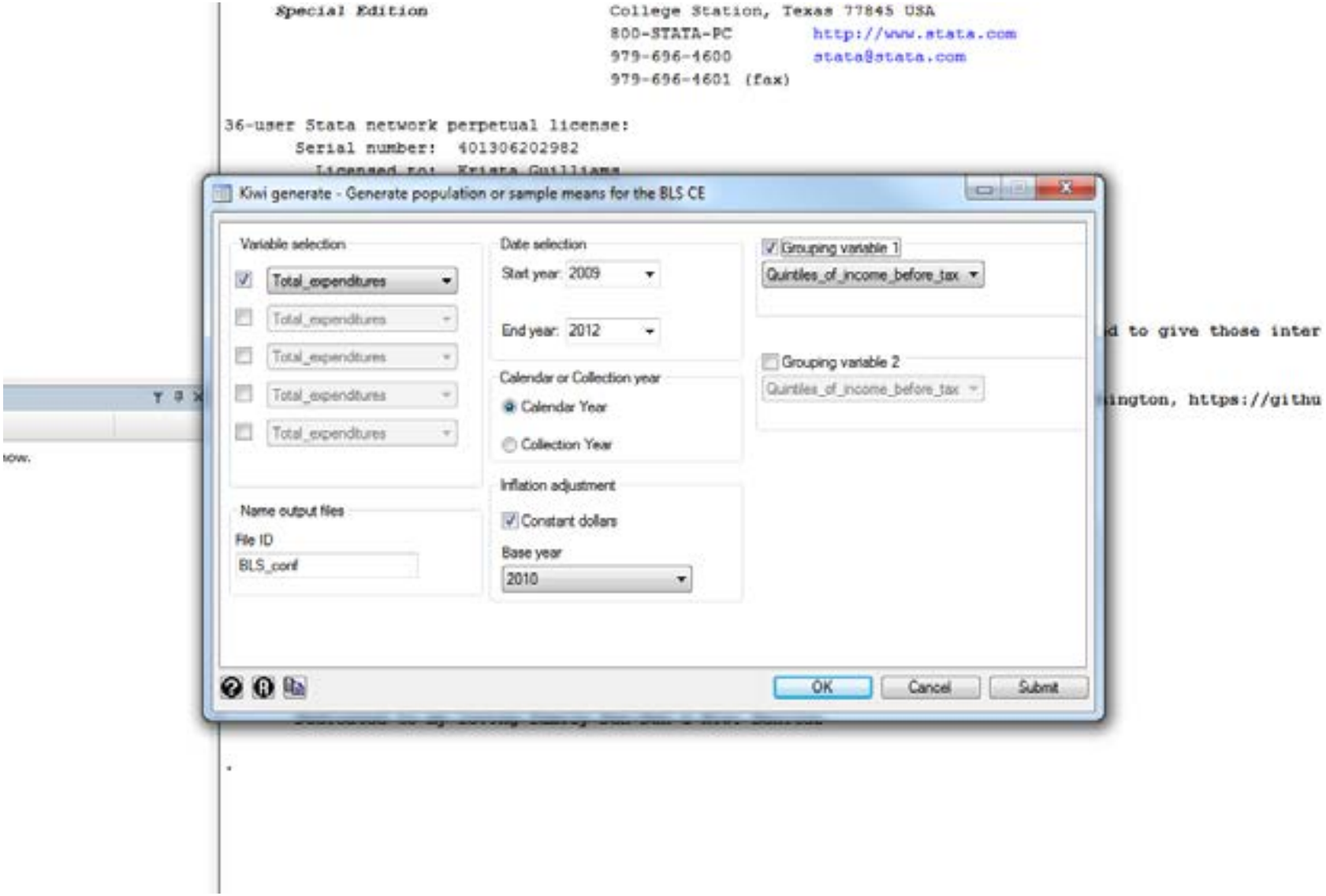
Total_expenditures
Total_expenditures
Date selection
Start year:
End year:
Calendar or Collection year
Calendar Year
Collection Year
Inflation adjustment
Constant dollars
Base year
1996
Name output files
File ID
Grouping variable 1
Quintiles_of_income_before_tax
Quintiles_of_income_before_taxes
Age_of_reference_person
Composition_of_consumer_unit
Housing_tenure
Race_of_reference_person
Income_before_taxes
Size_of_consumer_unit
Population_size_of_area_of_residence
Number_of_earners_in_consumer_unit
Region_of_residence
Occupation_of_reference_person
OK
Cancel
Submit

Kiwi Demo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979-696-4601 (fax)
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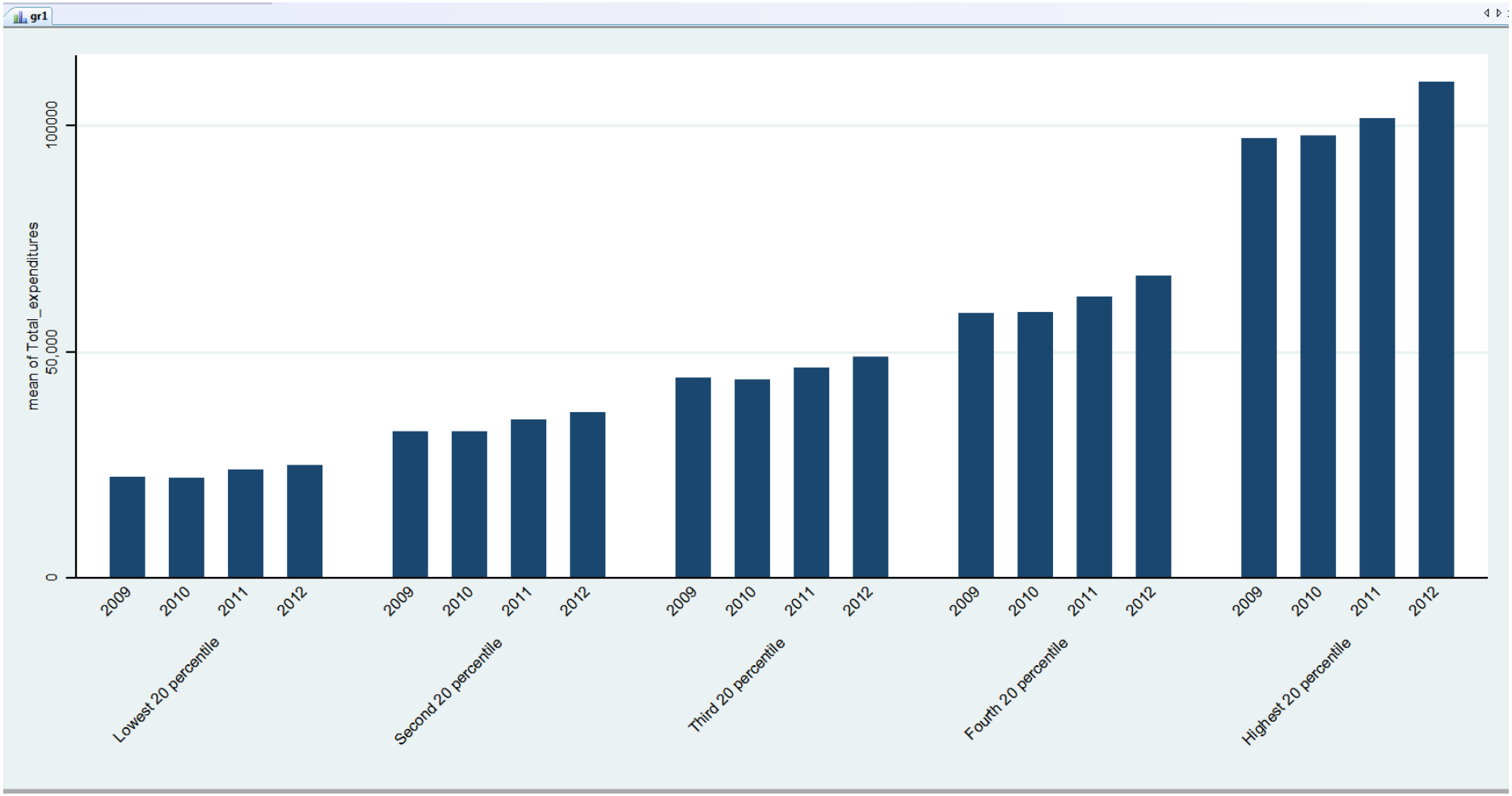
Serial number: 401306202982
Kiwi generate - Generate population or sample means for the BLS CE
Variable selection
Total_expenditures
Total_expenditures
Total_expenditures
Total_expenditures
Total_expenditures
Date selection
Start year: 2009
End year: 2012
Calendar or Collection year
Calendar Year
Collection Year
Inflation adjustment
Constant dollars
Base year
2010
Grouping variable 1
Quintiles_of_income_before_tax
Grouping variable 2
Quintiles_of_income_before_tax
Name output files
File ID
BLS_conf
OK
Cancel
Submit

Kiwi Demo


gr1
mean of Total_expenditures
0
50,000
100000
2009
2010
2011
2012
Lowest 20 percentile
Second 20 percentile
Third 20 percentile
Fourth 20 percentile
Highest 20 percentile

Next Steps for Kiwi

- Solve raw data importation
  - Stored locally
  - API or Remote download
- Expand CPI coverage
- Replicate process for the other files types (Diary MTAB ITAB EXPEN)
- Add in integrated means to replicate published tables
- Recode into a python based standalone application

Q & A

Questions and comments

Walt Lake
wlake@pewtrusts.org