01/02/2007
Model Documentation

STUBEN Model Documentation

Location: **S:\OWS\DFAS\ACTS\MODELS\StBens\STUBENXX.xls**
(Here XX stands for the calendar year so that CY2006 would be STUBEN06.xls; model will also include additional descriptive words such as Base or Technical to describe which version of the run (typically based on the assumptions) it is.)

Purpose: The purpose of the STUBEN Model is to forecast total UI benefits paid in the UI system on a quarterly basis for a total of 11 years.

Environment: The model is currently set up in one single Excel workbook including historical data, user inputs, all regressions and forecasts. Due to the excessive size of the model it might be necessary to rebuild the model using multiple workbooks linking between one another.

Description: The STUBEN model uses national economic assumptions as produced by OMB, including the labor force, total unemployment rate, total employment and total payroll to produce estimates of UI benefit payments. The assumptions are used to produce state estimates of various UI related variables using Ordinary Least Squares (OLS) regression techniques and other formulations to produce estimates for state benefit payments. The state estimates are then aggregated to provide overall estimates for the US. The state level data is used by the Revenue Model to produce revenue estimates as well.

The STUBEN model replaced the national level Newman Model beginning in 2005 in order to catch more state by state changes and shocks. The Newman Model used national level data to produce only national level outputs and therefore could not take into account any state changes whereas the new STUBEN model may be adjusted for shocks such as the effects of Hurricane Katrina in 2005 on Louisiana and Mississippi demographic changes within individual states.

<u>**Model Specifications**</u>: The model consists of **65 (+)** separate worksheets:

> **Settings Worksheet**: This sheet allows the user to set the labels, the base year, the starting forecast year and the type of equations that will be used to forecast the state variables. It also contains six tables which may be used to manually enter actual data***** for the Average Weekly Insured Unemployment, the Covered Employment, the Average Weekly Wage, Average Duration, Exhaustions, TUR, First Payments, Average Weekly Benefit Amounts and compensated to claimed ratios for each state by quarter. If data is entered into any cell within these tables then it will automatically replace any estimate within the state forecasts and will then be used as a starting point for subsequent estimates. This is important since

the model may only be updated once a year and always lags the current date by at least 6 months due to data availability. In order to produce the most accurate forecasts these tables should be updated as additional data becomes available throughout the year. There is also a table on the settings sheet which allows the user to enter actual or estimated values for the US Insured Unemployment Rate (IUR). These values, if entered will be used to produce an estimated US Average Weekly Insured Unemployment level from which state values are found proportionally. The state IUR is then found using this value along with the estimated state covered employment values. ***See "Adding Actual Quarters Data" section of this documentation for directions for pulling actuals.**

All State Data Worksheet: This sheet contains all of the state historical data needed for the model. The data is entered in block form as a direct output from the data-pull script and is linked from there to each individual state's historical data section. The directions for retrieving this data can be found later in this documentation. (*A model audit should be done to remove unnecessary historical data to save space. Alternatively, if the model is rebuilt some data may simply be left out. Also the data should be handled differently from the historical data sheet to the state pages in order to save space. One possible option is to create a macro to send data to state sheets, while another is to simply link only directly to state regression locations.)

Quarterly State Forecasts Worksheet: This sheet compiles all of the important state forecasts as quarterly values with data listed in calendar year format. The first variable is total state benefit levels followed by TUR, IUR, Total Unemployed, AWIU, IUTU, Covered Employment, Weeks Claimed, Weeks Compensated, AWW, AWBA, First Payments and Average Duration. For each variable the states are listed vertically and the year/quarter are listed horizontally.

State Benefit Forecasts Worksheet: This sheet compiles all of the different state forecasts for both the Calendar year and Fiscal year including a sum or average of each variable by quarter. The forecasted variables on this page include the Total Unemployment Rate, the Insured Unemployment Rate, the Total Unemployment, the average weekly insured unemployed, the Insured Unemployed to the Total Unemployed ratio, the Covered Unemployment, the Weeks Claimed, Weeks Compensated, Average Weekly Wage, Average Weekly Benefit, First Payments, Average Duration and the Total Benefits. For each variable the states are listed horizontally and the years are listed vertically. There is also an additional section to the right of the state values where the total forecasted US AWIU, Covered Employment, Total Unemployed and Total Labor Force are aggregated quarterly in order to compute the US IUR and the US TUR. ***Please note in cell DT119 the US TUR adjustment comparison table. This table, which will be explained more in-depth in the **TUR Adjustment** section of this documentation, is used to manually adjust the TUR outputs to equal that of the CBO Assumptions.

US Benefit Forecast: This sheet takes the aggregated forecasts from the State Benefit Forecasts worksheet and displays them for the US. This sheet acts as the final US forecast output for this model. The variables included in the US Benefit Forecast sheet are TUR, IUR, Total Unemployed, AWIU, IUTU, Covered Employment, Total Weeks Claimed, the Compensated to Claimed ratio, Total Weeks Compensated, Average Weekly Wage, Average Weekly Benefit, First Payments, the Average Duration and two different paths to find the Total Benefits Paid.

National Economic Assumptions Worksheet: This sheet contains the National Economic assumptions on a quarterly basis as provided by OMB each year as well as the necessary derived information needed for state forecasts. ***Please note the TUR values in column E are not equal to the actual CBO assumptions values. This will be discussed more in the **TUR Adjustment** section of this documentation, though please note the values in column G should be the actual TUR Assumptions.

US Historical Data Worksheet: This sheet contains all of the US historical data for all necessary information used in regressions and graphics in the model. (*Once again, if the STUBEN model is rebuilt this data should be looked at to see what may be removed from the model. Also this sheet currently includes additional information which is not being used by the model.)

Proportional Data Worksheet: This sheet contains data on the Average Weekly Insured Unemployment and each state's historical proportion of the US total AWIU. This proportion is found by taking the fitted average proportion over the last three years of each state to the US total. It also includes a forecast for US AWIU as well as a forecast for US IUTU which are then used for the proportional option to derive state AWIU. This page includes the option to choose either the direct AWIU forecast or the IUTU forecast in order to derive the US AWIU. Historically the IUTU forecast has been found to provide better models. The respective forecasts may be found next to the data to the far right in the sheet. There is also one more table which shows the US IUR values for the forecast years. This value is derived by using the forecasted AWIU value and the US covered Employment values unless the user enters US IUR values in which case the IUR shows those values and the AWIU will be derived from that user entered value.

Covered Employment Fit Worksheet: This sheet collects all of the covered employment forecasts from whichever type of model the user selects (either the same growth as projected US growth, an individual forecast or as entered by the user). It then adds all of these together for a US total and divides the projected US covered employment from the national economic assumptions by this new total to find the ratio. The original state values are then multiplied by this ratio to be used as a "fit" value to the projected US covered employment. This option may be

selected from the settings page following the model type selection for covered employment.

State Worksheets: There will be one worksheet for each state in alphabetic order. Each sheet will contain the historical state data, the derived state economic assumptions, individual state equations for calculating benefits, and the individual state forecasts of all necessary information. The sheets are organized so that the state forecasts are found to the far left of the sheet, the historical data and then derived historical data follow to the right and finally the regression data and equations are on the far right of the sheet.

Forecasts are completed quarterly and then broken out to both calendar year and fiscal year forecasts. The forecasted variables for each state include TUR, Labor Force, Total Unemployment, Covered Employment, Average Weekly Wage (AWW change), IUR, IUTU, AWIU, Weeks Claimed, Weeks Compensated, Maximum Weekly Benefits, Average Weekly Benefit Amount, Average Duration, First Payments and Total Benefits.

Comments Worksheet: This sheet contains any comments relevant to the model or the data. Feel free to make any comments regarding the model or changes made to the model here.

Graphics Worksheet: This sheet will contain a list of variables and the graphs associated with those variables. The variables will be graphed by their historical data and forecast period.

Equations Worksheet: Shows the equation used by each state for each variable which is forecasted in the model. Useful for easy model changes/updates.

SA TUR St_Qtr: This page includes the state forecasts of Seasonally Adjusted TUR, necessary for the EB model which accompanies the State Benefit Model. The Equations for these forecasts can be found on the individual state sheets.

Model Updating:
Included in the UNIX directory for the STUBEN model data is a run command that will run all three of the data pulling scripts at once. If you would like to use this command you must first go through each script and make the updates as outlined below. The command is simply the word run and will provide details as to the progress of the runs and will pull up the stdata.out file when finished to allow the user to check for run-time errors.

1. Pull the State Historical data using the script found at:

/fhome/btiks/SBFM/stdata.code

This script is quite simple update and run; to update the script the year values need to be changed near the bottom of the script in lines 238 and 239 to the first year of the 12 year period (line 238) and the base year for the model run (line 239). For example, if the base year (the final year of data being used before beginning the forecast) is 2004 then the years needed are 1993 and 2004.

Once these changes have been completed the model should be ready to run. After the successful run has been completed the .txt file will be ready in the file labeled **stdata1.txt** found in the STATES directory. Open this file from the file transfer window and then open the excel file named StateHistMacro.xls found at:

S:\OWS\DFAS\ACTS\STAPLETON\StBensModel\StateHistMacro.xls

Paste the data in the excel file beginning in cell A2 and then press Ctrl + w to send the data to columns and copy the entire data set. Next go to the All State Data sheet in the model and paste the data beginning in cell B4. (*Please note that VI data must be found elsewhere for TUR and TU since the database g_blsdat does not include data for VI*). Once the data has been pasted in the model go back to the StateHistMacro workbook and hit Ctrl + e to clear the data and prepare the sheet for the next update.

2. Pull the US historical data using the script found at:

/fhome/btiks/SBFM/usdata.code

-The only things within the script that must be changed are the dates in three locations. The first is on line 26 and pulls data from the ar5159u, the second is on line 84 and pulls data from BLS (g_blsdat), and the third is lines 169 and 170 and is after the section which pulls and manipulates data from the ar202. The first date needed is the base year which the model will be running off of and which is the most recent completed year before the forecast time period. Then take that base year and subtract 11 to get the beginning date needed, so, if your base year is 2004 then your beginning year will be 1993.
-These dates can be entered into lines 21 and 79 so that they both read "where year(rptdate) BETWEEN 'beginning date' AND 'base year'".
-The beginning date can then be entered into line 164 and finally the base year into line 165.
Once these changes have been completed the model should be ready to run. After the successful run has been completed the .txt file will be ready in the file labeled **usdata.txt**. Open this file from the file transfer window and then open the excel file named USHistMacro.xls found at:

S:\OWS\DFAS\ACTS\STAPLETON\StBensModel\USHistMacro.xls

Copy and paste the usdata.txt file output to the USHistMacro.xls sheet beginning in cell A2 and hit Ctrl + r which will sort the data to columns, add the appropriate aesthetics and copy the entire block of data to the clipboard. Finally go to the model to the US Historical Data sheet and paste the block of data into the sheet beginning in cell A7. Once the data

has been copied and pasted into the model return to the USHistMacro.xls workbook and hit Ctrl + w which will wipe out all of the data and leave the macro ready to be closed.

3. US Economic Assumptions will be provided by the Office of Management and Budget or by the Congressional Budgeting office and can be found on the S drive at: S:\OWS\DFAS\ACTS\BUDGET under the filename of econxXX.xls where x is either m or b, m meaning mid-session review and b meaning president's budget and XX is the fiscal year for the assumptions.

4. It is important here to look at the yearly equation updating spreadsheet found at:

:S\OWS\DFAS\ACTS\STAPLETON\StBensModel\Yearly Equation Updating Guide.xls

This spreadsheet lists the changes needed for the individual state equations in cases where the data used was cut short to avoid poor variable relationships. (ie… Individual state recession that would could the historical TUR during a given period to have a different relationship to the US TUR then is historically accurate and that may cause invalidity in the forecast since US TUR is the driving variable in this case.)

5. When all of the data is entered go to the settings page and make any changes to the model settings desired. There is also one setting adjustment found on the proportional page.

   - On the Main settings page: These changes may also be made to the individual states at the top right corner of their respective pages.
- Title for Dataset: Enter the desired title for the model run.
- Time: Updated automatically.
- Base Year of Model: Set this equal to the last year of data entered into the model.
- Number of Years to Forecast: ***Currently not available*** Set to forecast 10 yrs.
- Year to Start Forecast: Year after base year.

- Type of Model for Predicting State **Total Unemployment Rate**:
  - **Option 1**: (Default) Uses individual state TUR regression.
  - **Option 2**: (***Currently unavailable***) Uses average historical proportion of state TUR to US TUR.
- Type of Model for Predicting State **Insured Unemployment Rate**:
  - **Option 1**: Uses the forecasted AWIU divided by the average of the first four of the last six quarters' covered employment.
  - **Option 2**: (Default) Uses state IUR regression.
- Type of Model Predicting **Average Weekly Insured Unemployment** (**AWIU**):
  - **Option 1**: (***Make sure that if IUR is set to 1 that this setting is not used) Uses forecasted IUR times forecasted covered employment.
  - **Option 2**: (Default) Uses a three year historical average proportion of US AWIU against a forecast of US AWIU.
  - **Option 3**: Uses the forecasted IUTU ratio times the forecasted total unemployment.

- o **Option 4**: User enters values in the table in the Settings sheet. (If you simply want to enter these values for select states then use the setting table in the desired states only and enter the values in the tables. Otherwise the program will use the entered values for all states).
  - ▪ ***Note**: If AWIU is found using Option 3 the IUTU will be derived using individual state regressions. Otherwise, IUTU will be found by dividing AWIU by TU instead.
- Type of Model Predicting State **Covered Employment**:
  - o **Option 1**: Uses the estimated growth in US Covered Employment as the growth rate.
  - o **Option 2**: (Default) Uses individual state covered employment regression.
  - o **Option 3**: User enters values in the table in the Settings sheet. (If you simply want to enter these values for select states then use the setting table in the desired states only and enter the values in the tables. Otherwise the program will use the entered values for all states).
- Option to "fit" State Covered Employment to projected US Covered Employment:
  - o **Option 1:** Uses the actual state forecast value of the covered employment based on whichever model is selected above for CE.
  - o **Option 2:** Uses whichever CE model is chosen from above and then adjusts the number accordingly so that the US total equals the projected US covered employment from the National Economic Assumptions worksheet.
- Type of Model Predicting **Average Weekly Wage**:
  - o **Option 1**: (Default) Uses individual state regression to forecast AWW growth rate.
  - o **Option 2**: Uses a three year historical average of AWW growth.
  - o **Option 3**: User enters AWW value in the table in the Settings sheet. (If you simply want to enter these values for select states then use the setting table in the desired states only and enter the values in the tables. Otherwise the program will use the entered values for all states).
- Option to FIT state wage forecasts to US values.
  - o
- Type of Model Predicting **Average Weekly Benefit**:
  - o **Option 1**: (Default) Uses regression to forecast AWB.
  - o **Option 2**: Uses a two year historical average proportion of AWB to maximum weekly benefit.
- Path to forecast **Total Benefits**:
  - o **Option 1**: (Default) Uses the forecast of weeks compensated multiplied by the forecast of the average weekly benefit amount.
  - o **Option 2**: Uses the forecast of average duration times the forecast of first payments times the forecast of the average weekly benefit amount.
- Might want to remove this since two paths are automatically computed and displayed…
- Path to forecast Average Duration:
  - o

- **On the Proportional Sheet:**

- Model to Forecast <u>**US AWIU**</u>: (To be used for option 2 of the state AWIU.)
  - **Option 1**: Uses a regression where AWIU is the dependant variable.
  - **Option 2**: Uses a regression where IUTU is the dependant variable. Then the forecasted values are multiplied by the total employment values as denoted by the National Economic Assumptions to find the AWIU.

6. After the settings are set to the user's liking the SBFMSettingsandOutputs.xls worksheet will have the data available and the outputs will be ready to be printed. These printouts will also include the user entered title from the model and the date and time the model was last worked on. See below for further specifications regarding this workbook.

<u>**TUR Adjustment:**</u>

Since the model is composed of multiple state TUR regressions based on US TUR assumptions, it does not automatically produce aggregated State TUR's equal to the US assumptions. For this reason the user must adjust the model inputs appropriately in order to return the correct TUR outputs for the model. These inputs are entered into the NatEcon Assumptions worksheet in place of the actual assumption values in column E which are then used in state estimates. Therefore when new assumptions are entered into the model, the TUR assumptions should immediately be copied over to column G.

Once the model data is completely updated including all assumption data and actuals data, the TUR may then be manually adjusted. First the data in the US TUR seasonal adjustment factors should be found by simply updating a table in the Settings page. Beginning in cell W4 The most recent 6 completed years worth of seasonally adjusted and non-seasonally adjusted data should be entered (along with the year and quarter). Column AA will automatically update with adjustment values for each year and quarter. Column AC also updates with the 6 year average quarterly seasonal adjustment factors.

Once these values have been updated with the most recent 6 completed years, the assumptions may be manually updated. The State_Ben Fors worksheet includes the adjustment data beginning with cell DQ118, linked to column G for the actual TUR assumptions. Cell DT includes the seasonally adjusted aggregated TUR forecast from the model, which comes from column DO and is seasonally adjusted using the adjustment factors found previously in the Settings page.

Manual adjustments should be made to the US assumptions values in column E of the NatEcon Assumptions sheet so the values in columns DQ and DT match. Remember however that if any quarters of actual data are entered then those quarters may not match the assumptions values and will not change by making adjustments to the assumptions. These adjustments should be completed through all eleven years of the model forecast.

Adding Actual Quarters Data:

* Newly added actuals include the weeks compensated to weeks claimed ratio for the states. When entered into the settings page these values will be used in order to calculate the ratio used in forecasting the weeks compensated in the final state forecasts. Be sure to add these when they are available so that the most current ratio possible will be used for the forecasts.

Included in the UNIX directory (fhome/btiks/STUBEN) is an SPSS script similar to the one used to pull the historical data for the model which will pull all of the actual quarters of data that can be entered in the Settings page. The script is under the name actuals.code and when looking at the script the dates should be changed in 3 places. The dates should reflect the current years for which actual data is available and is not currently included in the historical data. If for instance the model includes data from 1994 through 2005 then the years in the code should at most include 2006 and 2007. (Anything further and the historical data in the model should be updated). The dates should be added in lines 46 and 47, 94 and 95 and 132 and 133.

Once the dates have been changed here run the script and then check the out file for errors. Assuming there are none check the out files, found in the STATES directory under the names acts1.txt, acts2.txt and acts3.txt. Each section needs to include the same number of quarters for each state or else the parsing macros will not be able to be used. Once the data has been checked for this open the excel workbook Actual Data Parse.xls and paste the three text files into the appropriate sheets labeled ACTS1, ACTS2 and ACTS3. After the data has been pasted hitting ctrl + w will send the data to columns. Next go to each data sheet and enter the number of quarters of actual data that each variable has available. Make sure to do this for all variables or else the macro will not run correctly. Once finished hit ctrl + a to send the data to the appropriate sheets and columns.

Since the columns in the model are set up alphabetical by state name and the pulled data comes out arranged by the fips code the data must be rearranged to match the order of the model. Hit ctrl + o to make these changes and once finished the data is ready to be entered into the model in the settings page. The best way to do this would be to copy each variable and then use the paste special option when pasting it to the appropriate tables.

Once all of the data has been copied into the model hit ctrl + e to reset the variable pages to the beginning format and clear out the data from them. You may also want to clear out the ACTS pages as well although you may get the same effect as these last two steps by simply not saving the workbook when exiting.

SBFMSettingsandOutputs.xls Workbook Specifications: This workbook contains 4 sheets which are basically direct copies of sheets from the actual model, St_Benefit_Model_FINAL.xls. The purpose of this workbook is to allow the user to run

the model using the St_Benefit_Model_FINAL.xls workbook and then view or print the output using the much smaller and thereby easier to manage settings and outputs workbook. One possible way that this may be done is by running the model with the desired settings, opening the settings and outputs book and resaving the SBFMSettingsandOutputs.xls to a new file. If this option is chosen and the user would like to save this output the cells should be copied and re-pasted as values to remove the active links to the model. If the user simply wants to print the output, the State Forecast Data and US Forecast Data sheets are formatted to print to 18 pages and 2 pages respectively. The settings page is also formatted to print out black and white to 1 page incase the user would like to have that as well. The user entered values for the AWIU, Covered Employment and Average Weekly Wage can be found on the Individual State Equations sheet near the bottom following Wyoming's equations.

Variable Definitions/Descriptions: (See STUBEN_HistDataOutline.doc for current data)

US Historical Data:
- TUR (SA) - Seasonally adjusted US Total Unemployment Rate taken from BLS. This rate is computed by dividing the Total Unemployed by the Civilian Labor Force. (c_1 from g_blsdat)
- IUR – The insured unemployment rate is derived by dividing the current quarter Insured Unemployed by the average Covered Employment of the first four of the last six quarters. (IU / (Covered Employment))
- Covered Employment – The number of employees covered by Unemployment Insurance reported to the states by employers. ($c_4 + c_{18}$ from ar202)
- Total Wages – All wages or remuneration paid to workers by all taxable employers. ($c_5 + c_{19}$ from ar202)
- Average Weekly Wage (AWW) – Total Wages divided by covered employment then divided by 52 weeks. $((c_5 + c_{19})/(c_4 + c_{18}))/13$
- AWIU – Average Weekly Insured Unemployment is the average weekly number of weeks claimed for the 13 weeks in the quarter. $((c_{21} + c_{24}) / 13$ from ar5159)
- IUTU – The Insured Unemployed divided by the Total Unemployed.
- Labor Force – The average number of individuals who are either employed or unemployed in the (12th?) week of the 12th for the three months of the quarter. (c_2 from g_blsdat)
- Total Unemployment – The average number of individuals, 16 years of age or older who do not have a job but are available for work and actively seeking work in the week of the 12th for the three months of the quarter. (c_8 from g_blsdat)
- Weeks Claimed – The number of weeks of benefits claimed including weeks for which a waiting period or fixed disqualification period is being served. ($c_{21} + c_{24}$ from ar5159)
- Weeks Compensated – The number of weeks claimed for which UI benefits are paid. (c_{38} from ar5159)

- AWBA – The Average Weekly Benefit Amount are the benefits paid for Total Unemployment divided by Weeks Compensated for Total Unemployment. (c_{46} / c_{39} from ar5159)
- First Payments – The first payment in a benefit year for a week of unemployment claimed under a specific program. Used as a proxy for "beneficiaries" under specific programs. (c_{51} from ar5159)
- Average Duration – The number of Weeks compensated for the year divided by the number of first payments. ($meanc_{38}$ / $meanc_{51}$ from ar5159)
- Total Benefits – The unemployment benefits paid to individuals under a state program, usually the first 26 weeks of benefits, for all weeks compensated. (c_{45} from ar5159)

State Historical Data:

- Weeks Claimed – The number of weeks of benefits claimed including weeks for which a waiting period or fixed disqualification period is being served. (sum of monthly data from cells c_{21} and c_{24} from ar5159)
- Weeks Compensated – The number of weeks claimed for which UI benefits are paid. (sum of monthly data from the cell c_{38} from ar5159)
- Total Benefits – The unemployment benefits paid to individuals under a state program, usually the first 26 weeks of benefits, for all weeks compensated. (sum of c_{45} monthly data from ar5159)
- First Payments – The first payment in a benefit year for a week of unemployment claimed under a specific program. Used as a proxy for "beneficiaries" under specific programs. (sum of c_{51} monthly data from ar5159)
- Exhaustions – The number of claimants drawing the final payment of their entitlement for a given program. (the sum of c_{56} monthly data from ar5159)
- Covered Employment Taxable Employers – The Covered Employment for all taxable employers. (c_4 from ar202)
- Total Payroll – The total payroll for all taxable employers. (c_5 from ar202)
- Covered Employment Reimbursable – Covered Employment for all reimbursable employers. (c_{18} from ar202)
- Covered Employment – The total covered employment number. (c_4 +c_{18} from ar202)
- Total Payroll – The total wages of all employers. (c_5 + c_{19} from ar202)
- AWBA – The average weekly benefit amount paid out to all UI recipients. (c_{46} (sum)/c_{39} (sum) from ar5159)
- AWW – Average weekly wage for taxable employers. (((c_5+c_{19}) / (c_4+c_{18}))/13 from ar202)
- Average Duration – The average length of time in weeks that a claimant receives unemployment insurance benefits. (c_{38} (avg)/c_{51} (avg) from ar5159)
- Maximum Benefit – The maximum benefit amount that an individual may be compensated in any given week. (c_4 from arsigp)

- Potential Duration – The maximum number of weeks an individual may claim under regular UI. (c5 from arsigp)
- IUR – The insured unemployed rate which is the total insured unemployed number divided by the average of the first four of the last six quarters' covered employment. ((awiu (ar5159)/lag2 of c26 (ar202)) *100)
- TUR (SA) – The seasonally adjusted total unemployment rate. (c1 (avg) from g_blsdat)
- Total Unemployment (SA) - The average number of individuals, 16 years of age or older who do not have a job but are available for work and actively seeking work in the (12th?) week of the 12th for the three months of the quarter. This number is seasonally adjusted. (c8 (avg) from g_blsdat)
- TUR (NSA) – Non-seasonally adjusted US Total Unemployment Rate taken from BLS. This rate is computed by dividing the Total Unemployed by the Civilian Labor Force. (c5 (avg) from g_blsdat)
- Total Unemployment (NSA) - The average number of individuals, 16 years of age or older who do not have a job but are available for work and actively seeking work in the (12th?) week of the 12th for the three months of the quarter. This number is seasonally adjusted. (c8 (avg) from g_blsdat)
- Labor Force - - The total labor force. (c2 (avg) from g_blsdat)
- Awiu – Average weekly insured unemployed number or just the number of insured unemployed people. (The sums of c21 and c24 monthly data from ar5159 divided by 13)
- IUTU – Insured unemployed to total unemployed ratio. (awiu/TUNSA)

State Forecast Variables: This section covers the variables which are forecast in the State Benefit Model and describes the explanatory variables used to forecast each dependant variable. A more detailed forecast variable list can be found later which includes each individual variable for each state and lists the full equation that is used. The Variables listed up through the survival rate are found using regressions while the variables following the break after the survival rate description are found in other ways which are also described here.

- TUR – Nonseasonally adjusted TUR. The state TUR is forecast using The national TUR, seasonal dummies and an additional dummy variable to catch any anomalies present in the relationship of the historical state to US TUR such as differences in the relationship when the US TUR goes over a certain level. Some states do not use this additional dummy variable but use the lag of the state TUR.
- IUR – Uses the lag of the State IUR, and a combination of the state TUR (ie TUR, TUR(+2)), along with the seasonal dummies.
- IUTU – Uses the lag of the state IUTU, the state TUR and seasonal dummies.
- Covered Employment – Uses the lag of the state covered employment, the US covered employment and seasonal dummies to forecast covered employment. Some states use leading US covered employment as a variable.
- AWW – Uses the lag of the state AWW, the US AWW and seasonal dummies.

- AWB – Uses the state AWW, the maximum weekly benefit, the state IUR and seasonal dummies.
- First Payments – Uses the lag of first payments, the state TUR and seasonal dummies.
- Average Duration – Uses the lag of the average duration, the state TUR and seasonal dummies.
- Labor Force – Uses the lag of the state labor force, the US labor force and seasonal dummies. Some states use different variations (lags or leads) of the US labor force while some also include a state TUR variable. Also some states do not include the lag of the state labor force. The Virgin Islands do not report their labor force information to BLS therefore this data is not included in their state model.
- Exhaustions – Uses The state's first payments and state TUR along with seasonal dummies.
- Survival Rate – Uses The state TUR, state IUR and seasonal dummies.

- Total Unemployment (TU) – Takes the forecasted TUR times the forecasted labor force to find the total number of unemployed. Since the labor force data is unavailable for the Virgin Islands this information is also left out.
- Final Covered Employment – This is the actual number that will be used for the aggregate US total covered employment. For this number the actual forecast for the state covered employment may be used as described above or that number will be fitted to the total US covered employment as projected by the US National Economic Assumptions. This fitting process is described above in the Cov Emp Fit worksheet description.
- AWW (1) – Based on the settings used for the run this number is found using either the AWW growth rate from the regression forecast, using a historical averaged growth rate or finally using user entered input.
- AWIU – Depending on the option chosen in the settings the average weekly insured unemployed is found by taking average of the first four of the last six months' forecasted covered employment times the forecasted IUR, taking the historical average of the proportion of the state AWIU to the total US AWIU against a forecasted US AWIU, using the previously found TU times the forecasted IUTU and finally using the user input values.
- Weeks Claimed – Found by multiplying the AWIU by 13 for the total number of quarterly claims.
- Weeks Compensated – Uses the number of weeks claimed times the historical average proportion of weeks claimed to weeks compensated.
- Maximum Weekly Benefit (MWB) – Uses the historical average proportion of the MWB to the AWW as a growth rate.
- Total Benefits – Found by either multiplying the weeks compensated by the average weekly benefit amount or by multiplying the average weekly benefit amount times the average duration times the first payments as forecast using their respective regressions.

Individual State Regression Equations: (Not up to date as of 5/17/2007)

- Alaska:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(US Labor Force, Seasonal Dummies)
    - Exhaustions f(First Payments, TUR, Seasonal Dummies)
    - Survival Rate f(TUR, IUR, Seasonal Dummies)
- Alabama:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
    - Exhaustions f(First Payments, TUR, Seasonal Dummies)
    - Survival Rate f(TUR, IUR, Seasonal Dummies)
- Arkansas:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- Arizona:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE(+3), Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)

- California:
  - TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)
- Colorado:
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)
- Connecticut:
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, St. TUR, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)
- The District of Columbia:
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)

- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Delaware:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Florida:**
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Georgia:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR(+2), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Hawaii:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-2), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)

- o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Iowa:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR(+2), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Idaho:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Illinois:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Indiana:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)

- o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Kansas:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF(-3), Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Kentucky:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF(+1), Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Louisiana:
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St, LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Massachusetts:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)

- o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
- o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
- o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
- o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
- o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- o Labor Force f(US LF, Seasonal Dummies)
- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Maryland:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Maine:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Michigan:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Minnesota:
  - o TUR f(St. TUR(-1), US TUR(+2), Seasonal Dummies)

- IUR f(St. IUR(-1), St. TUR(+1), Seasonal Dummies)
- IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
- Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
- AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
- AWBA f(AWW, MWB, IUR, Seasonal Dummies)
- First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
- Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- Exhaustions f(First Payments, TUR, Seasonal Dummies)
- Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Missouri:**
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Mississippi:**
  - TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Montana:**
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE(+2), Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- North Carolina:
    - TUR f(St. TUR(-1), US TUR(+3), Seasonal Dummies)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF(+2), Seasonal Dummies)
    - Exhaustions f(First Payments, TUR, Seasonal Dummies)
    - Survival Rate f(TUR, IUR, Seasonal Dummies)
- North Dakota:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
    - Exhaustions f(First Payments, TUR, Seasonal Dummies)
    - Survival Rate f(TUR, IUR, Seasonal Dummies)
- Nebraska:
    - TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
    - Exhaustions f(First Payments, TUR, Seasonal Dummies)
    - Survival Rate f(TUR, IUR, Seasonal Dummies)
- New Hampshire:
    - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
    - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
    - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
    - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
    - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
    - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
    - First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
    - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
    - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)

- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- New Jersey:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- New Mexico:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Nevada:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- New York:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)

- o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Ohio:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Oklahoma:
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Oregon:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Pennsylvania:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)

- o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
- o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
- o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Puerto Rico:**
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Rhode Island:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **South Carolina:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **South Dakota:**
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)

- o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Tennessee:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+2), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Texas:**
  - o TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Utah:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- **Virginia:**
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)

- IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
- IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
- Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
- AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
- AWBA f(AWW, MWB, IUR, Seasonal Dummies)
- First Payments f(1ˢᵗ Payments(-1), TUR, Seasonal Dummies)
- Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- Exhaustions f(First Payments, TUR, Seasonal Dummies)
- Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Virgin Islands:**
  - TUR f(St. TUR(-1), US TUR, Seasonal Dummies)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1ˢᵗ Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Vermont:**
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1ˢᵗ Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Washington:**
  - TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - First Payments f(1ˢᵗ Payments(-1), TUR, Seasonal Dummies)
  - Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
  - Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - Survival Rate f(TUR, IUR, Seasonal Dummies)

- **Wisconsin:**

- o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
- o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
- o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
- o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
- o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
- o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
- o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
- o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
- o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)
- o Exhaustions f(First Payments, TUR, Seasonal Dummies)
- o Survival Rate f(TUR, IUR, Seasonal Dummies)
- West Virginia:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(US LF, Seasonal Dummies)
  - o Exhaustions f(First Payments, TUR, Seasonal Dummies)
  - o Survival Rate f(TUR, IUR, Seasonal Dummies)
- Wyoming:
  - o TUR f(US TUR, Seasonal Dummies, Interact Dummy)
  - o IUR f(St. IUR(-1), St. TUR, St. TUR(+1), Seasonal Dummies)
  - o IUTU f(St. IUTU(-1), TUR, Seasonal Dummies)
  - o Covered Employment f(St. CE(-1), US CE, Seasonal Dummies)
  - o AWW(GR) f(St AWW(GR)(-1), US AWW(GR), Seasonal Dummies)
  - o AWBA f(AWW, MWB, IUR, Seasonal Dummies)
  - o First Payments f(1st Payments(-1), TUR, Seasonal Dummies)
  - o Avg. Duration f(Duration(-1), TUR, Seasonal Dummies)
  - o Labor Force f(St. LF(-1), US LF, Seasonal Dummies)

Other Forecast Equations Used:

- US AWIU f(AWIU(-1), TU, TU(-2), Seasonal Dummies)
- US IUTU f(IUTU(-1), TUR(+1), TUR(+2), Seasonal Dummies)