FISCAL RESEARCH CENTER

FORECASTING PRE-K ENROLLMENT IN GEORGIA COUNTIES

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Executive Summary

To forecast pre-kindergarten (Pre-K) enrollment in Georgia by county for 2007 through 2011 we use data on actual Pre-K enrollment and data on the population of four year olds. Due to data limitations, we rely on forecasting the population of four year olds from 2005 forward and we forecast Pre-K enrollment based on past relationships between population and Pre-K enrollment.

Data for the four year old population come from the Surveillance Epidemiology and End Results (SEER) database at the National Cancer Institute. We perform a number of consistency checks on the data base by comparing our forecast with the one obtained from the Centers for Disease Control (CDC) data on births as well as from Geolytics population forecasts. Geolytics is a private company that develops population forecasts. Data for Pre-K enrollment comes from Bright from the Start (BFTS).

We use a county specific time-series autoregressive moving average econometric model, an ARMA(*p*,*q*) model, to forecast population. Statistical tests and in sample forecasts show that the model is able to explain the data very well and that we are able to predict trends that have been occurring so far. Although there are variations across counties, aggregate forecasts for Georgia are nearly identical to observed numbers for the in sample forecasts. Nevertheless, one needs to check for errors in purely statistical forecasts and assess them in relation to external information.

This document provides a manual on the forecasting methodology to provide guidance to someone who is interested in replicating results or reestimating the model when the new data becomes available.

I. Introduction

Bright from the Start (BFTS), Georgia Department of Early Care and Learning, administers Georgia's pre-kindergarten program (Pre-K) in addition to other administrative and policy oversight related to early learning and child care. As part of its annual planning and budget activities, BFTS forecasts the Pre-K population by county for the state. The Pre-K forecasts by county can be used for program budgeting, for analysis of the coverage of Pre-K, and for long-term planning related to expansion of the Pre-K program.

The Andrew Young School of Policy Studies, Georgia State University was contracted to provide a methodology for forecasting the Pre-K population. This report provides a manual that documents the methodology and provides the actual forecast by county for 2007-2011. This methodology is to be "handed off" to BFTS along with training so that future forecasting can be done in-house at BFTS.

II. Data

Two key components of data used to forecast Pre-K enrollment are data on actual Pre-K enrollment and data on population of four year olds. As data on actual Pre-K enrollment are available only from 2001 to 2006, it is nearly impossible to use a statistical model to accurately forecast 5 periods ahead given we have only 6 actual values of enrollment. Therefore, we rely on forecasting the population of all four year olds. As our forecasting capabilities are much greater given that population data for four year olds are available from 1969 to 2004, we first forecast the population of four year olds, and then we estimate Pre-K enrollment based on some past relationship between population and Pre-K enrollment. We apply this relationship to the forecast of four year olds to derive the forecast of Pre-K enrollment.

The following section describes the data used to forecast the population of four year olds. It describes the data on actual Pre-K enrollment that is used to determine the relationship between population and enrollment.

Population of Four Year Olds

To forecast the population of four year olds our model relies on the previous population of four year olds. Data we use come from the Surveillance Epidemiology and End Results (SEER) database at the National Cancer Institute. The database has estimates of four year olds by county for each year from 1969 to 2004. This relatively long time series allows us to use a purely statistical approach in forecasting population from 2007 to 2011. Nevertheless, we have used several different data sources to forecast the population of four year olds as a robustness check. These sources are briefly described below.

CDC Data on Births

Center for Disease Control and Prevention (CDC) provides data on births by county by year from 1968 to 2004. The unit of observation is birth, not county, and therefore one first needs to aggregate births by county. These data can be very useful in estimating population of four year olds as the data contain a lot of explanatory variables for each newborn. However, using these data to forecast population of four year olds requires making two strong assumptions:

1. Newborns did not move from their county of birth until they were over four years old (or that movement is purely random so that on average population stays the same);

2. The county where the birth certificate was issued is same as the county of residence.

Making such strong assumptions that can be easily violated may lead to inconsistent estimates of population of four year olds at the county level and in turn to inconsistent estimates of Pre-K enrollment at the county level.

Geolytics Forecast

A previous AYSPS forecast used population estimates and projections from Geolytics for 2006 and 2011 for the "less than 5" age group as the base of the forecast of four year olds. Then, several calculations were done in order to derive the population of four year olds from the base group. These calculations involve using Census data on "3-4 year old" and data on first grade enrollment to derive a final population forecast. However, by using these data we are making the following assumptions:

1. There will be no migration between counties in the period from 2006 to 2011;

2. All children enrolled in public schools (i.e. there were no children enrolled in home schooling programs and there were no children enrolled in private schools);

3. All children enrolled in public schools in the county where they attended Pre-K;

4. In Census population estimate of "3-4 year old," exactly half are four year olds and half are three year olds.

Again, making such strong assumptions may lead to inconsistent estimates of population of four year olds at the county level and in turn to inconsistent estimates of Pre-K enrollment at the county level. We therefore rely on SEER data for our final forecast. However, we compare our final forecast with the forecast based on Geolytics data, and we describe this in more detail in the next section.

Pre-K Enrollment

Data on actual Pre-K enrollment are collected from Bright from the Start. These data are available by county by year from 2001 to 2006. We do not use these data to forecast future Pre-K enrollment alone. Nevertheless, we use these data to derive relationship between four year olds and Pre-K enrollment in each county. In turn our final forecast of Pre-K enrollment will be influenced by these data as they determine relationship between population of four year olds and Pre-K enrollment.

In almost every county in Georgia we observe an increase in enrollment over time. This increase in enrollment is much greater (in relative terms) than the increase in population. Therefore, it appears that the enrollment rate has been increasing at a faster rate when compared to the increase in the population of four year olds. However, given only 6 observations, we cannot estimate nor impose any relationship that would suggest how this enrollment is to increase in years 2007 through 2011.

In addition, there may have been exogenous factors that caused the increase in enrollment. One such factor is a change in policy or targeted focus, and we know that such changes have occurred. Therefore, given policy changes and relatively few observations of actual enrollment, one would need to rely on “expert opinion” in order to forecast future Pre-K enrollment, as previous realizations are not very good predictors of future ones. In the next two sections, we will discuss in more detail how such “expert opinion” can be incorporated to adjust estimates of enrollment ratios and forecasts of Pre-K enrollment.

III. Methodology

This section briefly describes the methodology used to forecast Pre-K enrollment by county. Our forecasting has two components: forecasting population of four year olds and calculating enrollment from the forecasted population. The population forecasts are based on a purely statistical time-series model. To derive our final Pre-K enrollment forecast, we multiply our population forecast of four year olds by the estimated enrollment ratio. Depending on the estimated enrollment ratio, we can have more than one forecasts of Pre-K enrollment, despite having only a single forecast of population of four year olds.

First we describe the methodology used to forecast population of four year olds. Next, we describe how we calculate the enrollment ratio, and finally we describe how these two are combined to obtain forecast of Pre-K enrollment.

Forecasting Population of Four Year Olds

To forecast the population of four year olds by county we can rely on purely statistical models (where we use only previous population to forecast the future population) or on structural models ("more economic" models where we impose a structure and use other variables such as per capita income and mother's labor participation, as well as population itself to forecast future population). Although structural models have many advantages, they require us to impose a relationship between four year old population and some other variables (such as income, female unemployment, etc.). Therefore, these models are very data intensive. In addition, using structural model raises the following issues:

1. What variables should be included in the model? Although some variables, such as births four years ago, have a strong statistical relationship to population of four year olds, one can argue that population of four year olds is influenced by various other factors and there is no clear-cut point at which one can say what variables should and what should not be included in the model.

2. Asides from selecting relevant variables, one also needs forecasts of such variables in order to derive a forecast of four year old population. Some forecasts, such as per capita income, are relatively easy to obtain. However, other variables for which forecasts are not available would

require doing additional forecast and they would thus increase forecast error.

Therefore, we rely on a purely statistical models to forecast the population of four year olds. Although these models are less intuitive, they are very powerful if the trends are stable as they are in this case.

The population forecast literature has some doubts about using standard forecast models in the very long run. However, forecasting seven periods ahead should not raise any serious concerns under the assumption that there would not be any drastic scenarios. Nevertheless, as Lee and Tuljapurkar point out, “one should not rely on mechanical time series forecasts in any case; they should be assessed in relation to external information.”[1]

We have used several methods, and our final forecasts are based on an autoregressive moving average model, ARMA(*p*,*q*), where *p* denotes maximum autoregressive order included in the model and *q* denotes maximum moving average order included in the model. Our model is outlined in the following equation:

$$pop_{i,t} = \varphi_{i1} \cdot pop_{i,t-1} + \ldots + \varphi_{ip} \cdot pop_{i,t-p} + \varepsilon_{i,t} + \theta_{i1}\varepsilon_{i,t-1} + \ldots + \theta_{iq}\varepsilon_{i,t-q} \quad (1)$$

where *pop* denotes population, *i* denotes county, and *t* denotes year. We let *p* and *q* vary by county, and the choice of *p* and *q* is data driven (i.e. we let the data tell us what lags are significant and should be included). Therefore, we do not impose a model where we assume each county is same; rather, we allow each county to follow its own structure so it best fits the data.

The county-specific models outlined in Equation (1) fit the data well. In addition, they are relatively easy to recreate and reanalyze.[2] However, these models are not always intuitive, and they can be very weak in forecasting in cases where they do not fit the data very well. Nevertheless, there are several techniques available for determining how well a model fits the data.

[1] Lee, Ronald and Shripad Tuljapurkar (1998). "Population Forecasting for Fiscal Planning: Issues and Innovations." Burch Center Working Paper Series, University of California, Berkeley.
[2] Section IV focuses on recreating and reanalyzing these models when new four year old population data become available.

One approach for determining how well the model fits the data would be to perform a Portmanteau Q-test for white noise in the residuals after the data have been fitted. If fitted residuals appear to be random (i.e. if Q-statistic is significant at the common confidence levels), then we can be confident that model fits the data well.

Although less orthodox, another approach in determining how well the model fits the data would be to perform in sample forecasts and then compare those with actual realizations. We did this exercise assuming that the last observation available was in year 2000, and we started forecasting at 2001. When we aggregate our in sample forecast over all Georgia counties, we see that forecast was able to predict population with only small error. Table 1 outlines our results.

TABLE 1. ACTUAL VS. FORECASTED FOUR YEAR OLD POPULATION

	Actual	Forecasted
2001	120,505	120,064
2002	121,640	121,422
2003	122,879	123,917

Nevertheless, there are variations from county to county on how well the model fits the data. In addition to looking at how well we forecasted point estimates of the population of four year olds, it is also interesting to see how confident we can be in our point estimate. The following two figures present in sample point forecasts and confidence intervals of forecasts for selected counties.

FIGURE 1. IN-SAMPLE FORECAST OF POPULATION OF FOUR YEAR OLDS (GWINNETT COUNTY)

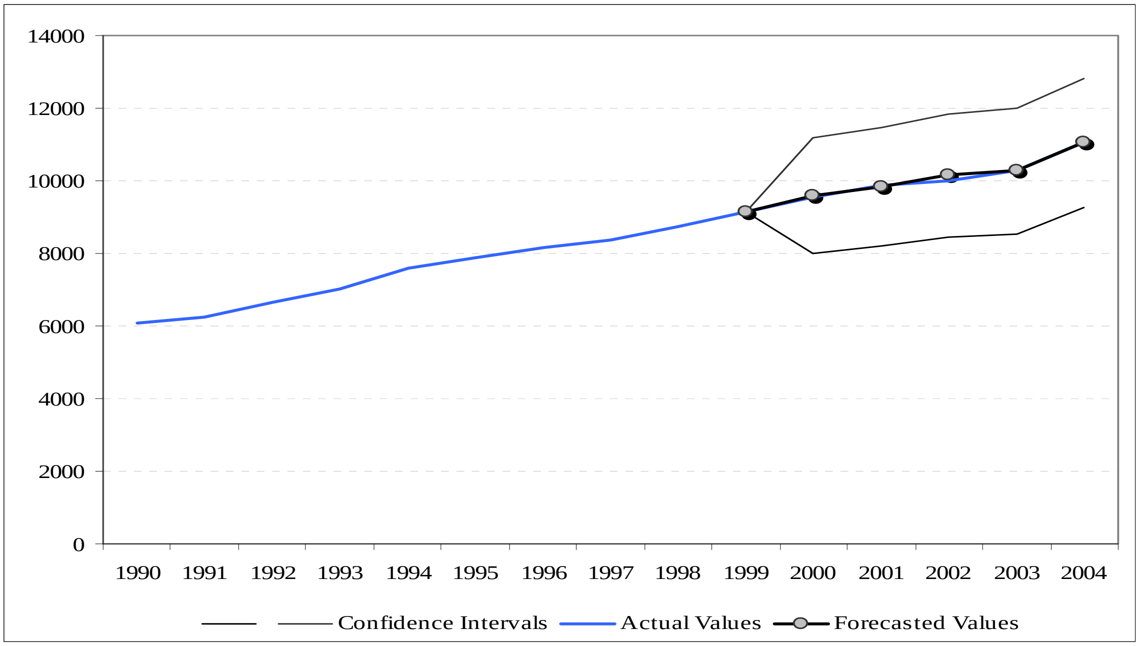
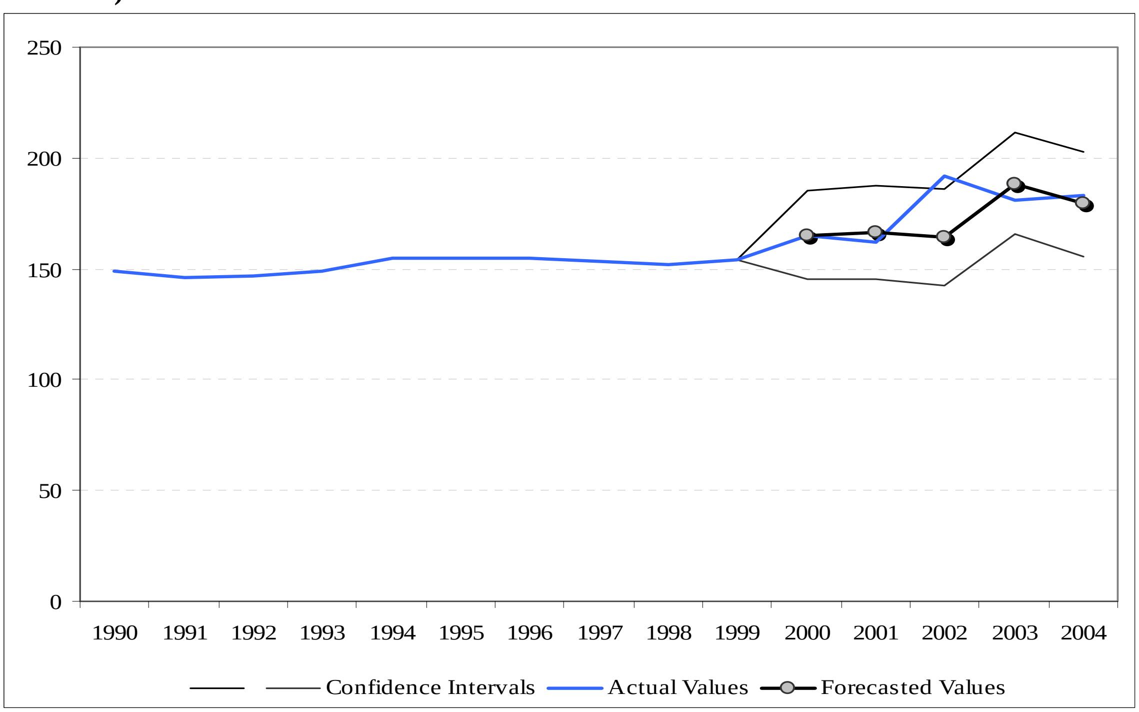


FIGURE 2. IN-SAMPLE FORECAST OF POPULATION OF FOUR YEAR OLDS (RABUN COUNTY)



From the figures wee see that forecast is able to capture trends in both cases – in Gwinnett County where there is a steady increase in population, as well as in Rabun County where population is much more volatile. From the figures we also see that confidence intervals are much different in these two counties. Although both confidence intervals are based on two standard deviations (little above 95 percent confidence level), we see that confidence interval for Gwinnett County is much wider (in relative and absolute terms) than the confidence interval for Rabun County. While wider absolute deviation can just reflect the fact that Gwinnett County has a much larger population, wider relative deviation also reflects the fact that the model has a better fit for the Rabun County data than it does for the Gwinnett County data.

Forecasts of four year olds by county for years 2007 through 2011 are included in Table A1 in Appendix 1. There we see that forecasts in almost all counties, with several exceptions, predict an increase in population of four year olds from 2007 to 2011. Although the population growth varies from county to county, when the population for all of Georgia is considered, we see a growth in population of four year old of 2.7 percent from 2007 to 2011. The following two figures present point forecasts and confidence intervals of forecasts for selected counties.

FIGURE 3. FORECAST OF POPULATION OF FOUR YEAR OLDS (GWINNETT COUNTY)

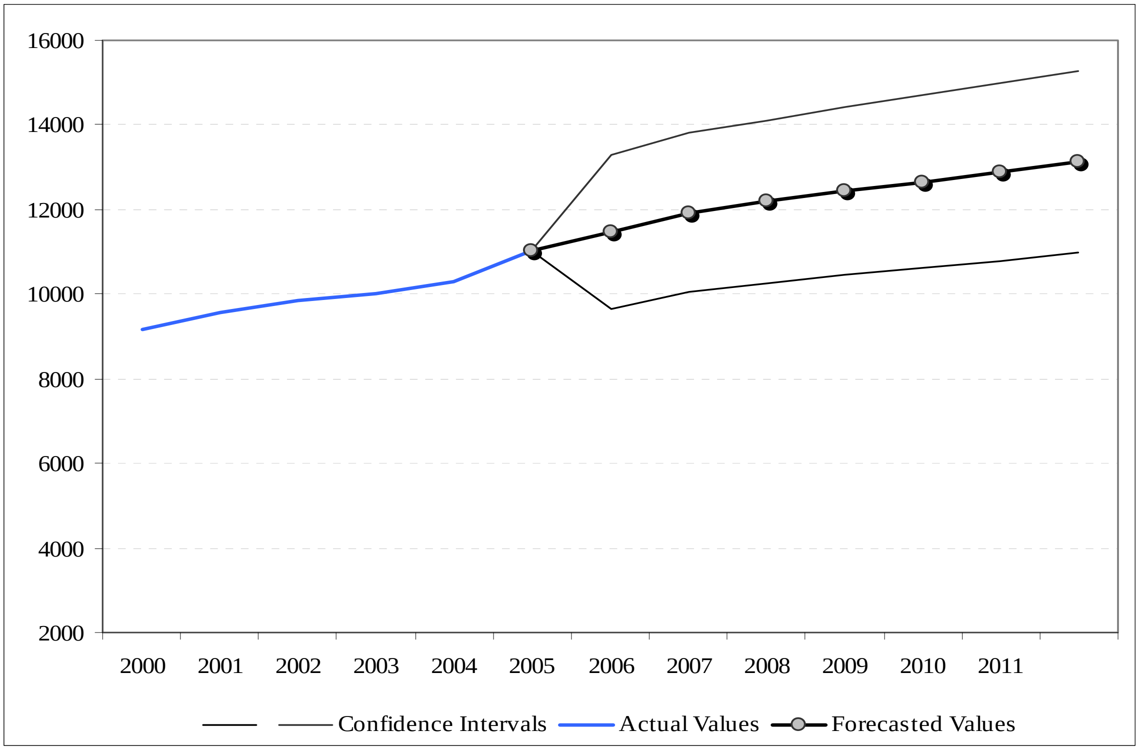
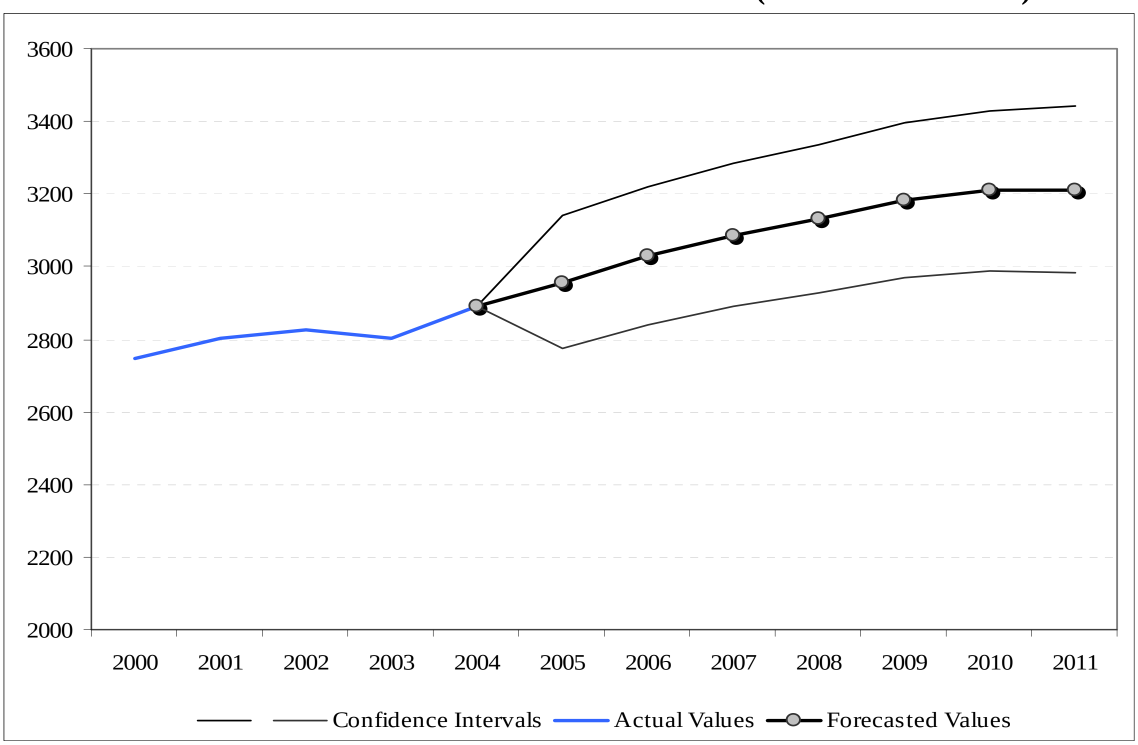


FIGURE 4. FORECAST OF POPULATION OF FOUR YEAR OLDS (RICHMOND COUNTY)



From the figures we see that confidence intervals are much different in these two counties. Although both confidence intervals are based on two standard deviations (little above 95 percent confidence level), we see that confidence interval for Gwinnett County is much wider (in relative and absolute terms) than the confidence interval for Richmond County. While wider absolute deviation can again just reflect the fact that Gwinnett County has higher population, wider relative deviation reflects the fact that model fits the Richmond County data better than it fits the Gwinnett County data.[3]

When compared[4] to the previous AYSPS previous that were based on Geolytics' estimates of 0-5 years old and adjusted for estimated fraction of 4 year olds in that group, the new estimates are very close for most years. However, the new forecast underestimates population compared to old forecast. This deviation is especially noticeable in the final forecast years.

In most cases the two forecasts differ by very little in relative terms, but there are some outliers where the two forecasts differ by a lot. Average absolute deviation for all counties and years is 17 percent. Median absolute deviation for all counties and years is 12.9 percent. However, absolute deviations for all counties and years range from 0 percent to 161.1 percent.

This comes as no surprise when we take into account that the new forecast is purely statistical, and that even when the predictions for a given county are not intuitive, we have no means of adjusting that single county. However, these forecasts are based on the models that best fit the data, not on common sense. Therefore, while we can be confident in forecasts based on statistics, one still needs to investigate county by county to see if there are any serious errors or outliers.

Estimating Enrollment Ratio

In order to determine Pre-K enrollment, in addition to estimating four year old population, we need to impose some relationship between the four year old population and Pre-K enrollment. Then, if we assume that such relationship will hold

[3] It should be noted that Gwinnett County is the county with worst fit in terms of statistics.

[4] Detailed comparison in is included in sheet "Comparison ARMA(*p*,*q*)" in *forecast.xls*.

in the future, based on that relationship and four year old population forecast we derive Pre-K enrollment forecasts.

Key component that reflects this relationship is the enrollment ratio. This ratio is calculated as:

(2) $$ratio_{county,year} = \frac{enrollment_{county,year}}{population_{county,year}}$$

where year goes from 2001 to 2006 as enrollment data are available only for these years. Therefore, we have six ratios, and we can use any combination of them to determine the relationship between four year old population and Pre-K enrollment by county. Notice that because data on population of four year olds is available only up to 2004, enrollment ratios for 2005 and 2006 are always based on a forecasted instead of the actual population of four year olds. Ratios for 2001 through 2004 can be based on actual population estimates or on in-sample forecasts.

Pre-K Enrollment

To forecast Pre-K enrollment we combine our forecast of population of four year olds and estimates of enrollment ratio. The population forecast is always the same and it is based on county level ARMA(p,q) model discussed earlier. However, we can use different enrollment ratios to derive Pre-K enrollment form population of four year olds. Below we explain what combinations of the enrollment ratios were used.

As we use four different averages of enrollment ratios to calculate the final estimate of the enrollment ratio that is to be applied to population forecast, there are four forecast of Pre-K enrollment as well. The four ratios are calculated using:

1. Ratios based on forecasts of population from 2001 to 2006, assuming that the last available year of actual population was 2000. The final ratio is calculated as an average of six ratios;

2. Ratios based on actual population from 2001 to 2004. The final ratio is calculated as an average of four ratios;

3. Ratios based on actual population from 2001 to 2004 and ratios based on forecasts of population for 2005 and 2006. The final ratio is calculated as an average of six ratios;

4. Ratios based on actual population for 2003 and 2004 and ratios based on forecasts of population for 2005 and 2006. Final ratio is calculated as a weighted average of four ratios, where weights correspond to "year minus 2002" (so that 2006 has a weight of 4, 2005 has a weight of 3, etc.). Therefore, the last two years (forecasted ones) have the highest weights.

Once estimated, these enrollment ratios can be manually adjusted for each county for each year (look at sheet "Enrollment ARMA(*p*,*q*)" in *forecast.xls*, columns labeled "Adjustments"). If one knows that there will be a certain policy aimed at increasing (decreasing) enrollment one can increase (decrease) enrollment ratio in given county and year by entering additional positive (negative) percentage of four year olds that will enroll in Pre-K. This technique can be also used if one believes that the estimated numbers do not reflect actual enrollment, and that there may be a need for adjusting them.

IV. "How To" / Manual

This section briefly outlines the steps necessary to reproduce population forecast when new data becomes available. In addition to reestimating population forecast models,

There are five files one needs to replicate results and perform additional forecasting. These are:

1. *forecast.do*
2. *forecast_template.do*
3. *lags.do*
4. *data.dta*
5. *forecast.xls*.

In addition, one needs the following software to replicate results and perform additional forecasting:

1. *Microsoft Word*
2. *Microsoft Excel*
3. *Stata*
4. *Notepad* (or any other simple text editor).

Re-Estimating Four Year Old Population with Additional Data

Currently the SEER database provides data up to 2004. When 2005 data become available, the original data can be updated. To update the data, please follow these steps:

1. Select sheet "data" in *forecast.xls*. Then scroll down to cell C5726 where data for 2005 starts;
2. Make sure that the counties in your new data are ordered by Federal Information Processing Standard (FIPS) code AND NOT BY NAME;
3. Paste your new data starting at the cell C5726;

4. If you are pasting data for 2005 only, you should have 159 observations. This should fill in the cells C5726 through C5884;

5. Rename *data.dta* to *data.dta.bak*;

6. Run *Stata*;

7. In *Stata*, issue the following command: edit;

8. Go back to *Excel* and select cells A1 through C7474 and copy them;

9. Go back to *Stata*, go to data editor window, and paste the selection (Ctrl+V);

10. Click "Preserve" and then close data editor;

11. Go to "File," and select "Save As" and save data as *data.dta* in the same folder where original data was located.

Now that you have new data in the dataset, you can reestimate the models and make sure that forecasts are still based on the models that best fit the data.

Adjustment of Number of Lags in ARMA(p,q) Model

When the new population data are available, one needs to reestimate the model and produce new forecasts. However, before one reestimates the model, the specification may change as well when new data becomes available. Therefore, one first needs to see what lags are significantly influencing the realization of the dependent variables. To determine what lags are significant, you need to do the following:

1. Using *notepad* or similar text editor, open the file *lags.do*;

2. Scroll down until you see:

```
********************
* CHANGE BEGINS HERE
********************


graph export "D:\prek\`i'.wmf", replace
```

```
********************
*  CHANGE ENDS HERE
********************
```

3. Change *D:\prek* into the folder where you want graphs stored. You should create a new folder that does not have any other files;

4. Run *Stata*;

5. Issue the following command: cd “D:\prek” where D:\prek is the folder where *lags.do* file is located;

6. Issue the following command: do lags.do;

7. Close *Stata* and run *Microsoft Word*;

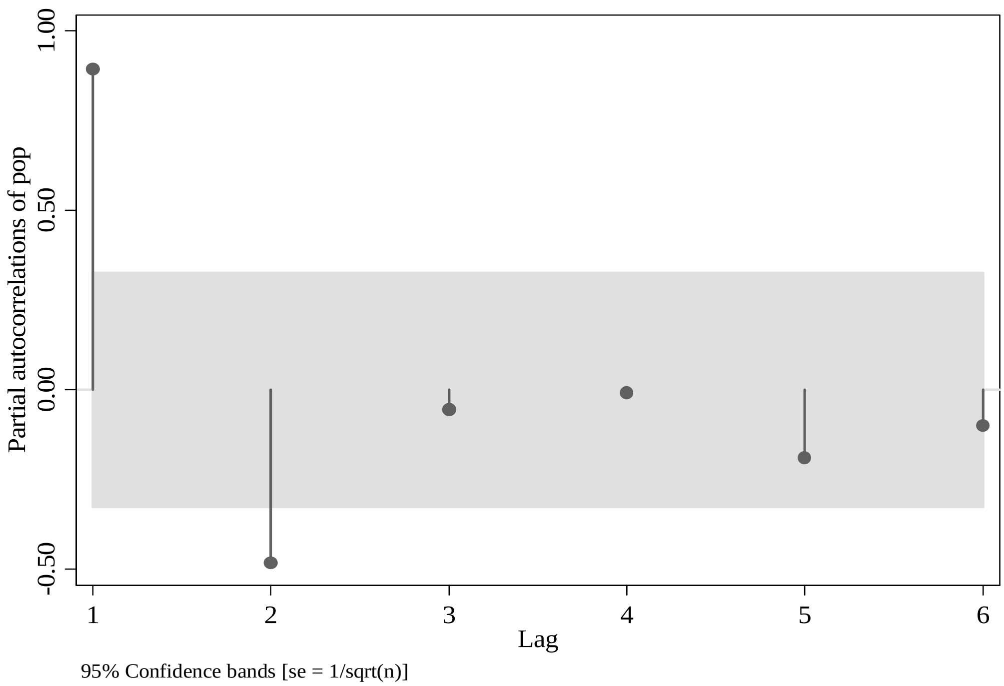
8. (The following step will require a lot of your computer’s time, so it is recommended that you close all other software) Browse the folder where you stored graphs;

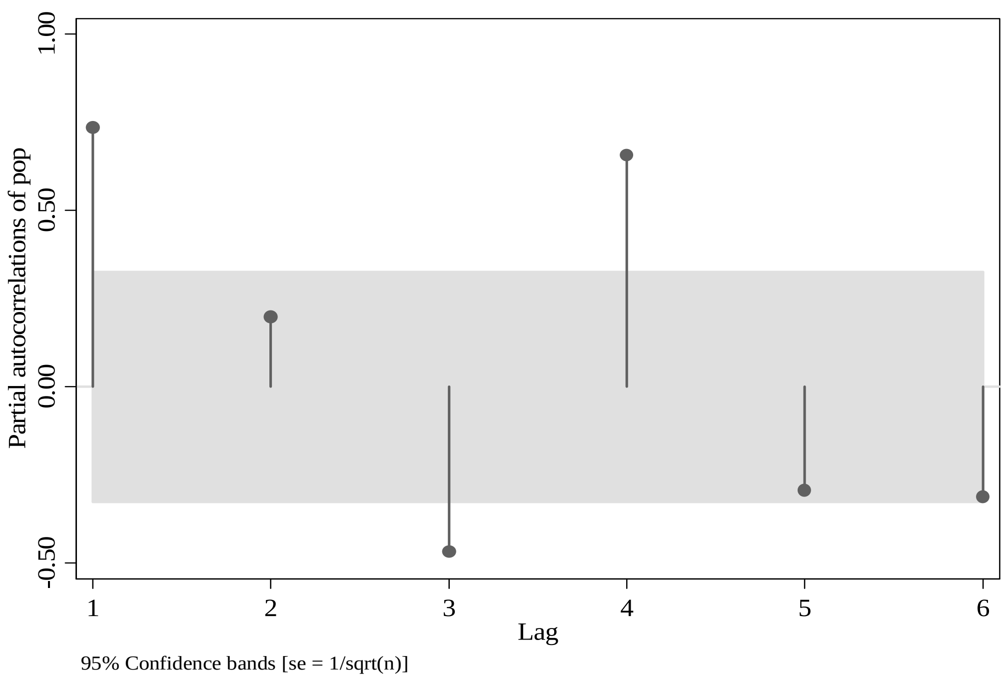
9. Sort files by name (you need to do this to make sure that you are assigning significant lags to the right counties);

10. Select all files and drag them into *Word*;

11. You should have 159 graphs like the following:

FIGURE 5. SAMPLE GRAPHS OF AUTOCORRELATIONS





The lags that are outside of the 95 percent confidence bounds (shaded areas) are significant and should be included in the model. You can adjust the lag structure by doing the following:

1. Select sheet "lags" in *forecast.xls*;
2. Starting from the first graph (FIPS code 1 or 13001), circle all the significant lags on your printout;
3. Enter them in row for the corresponding county. Please follow the order. For example, for county in the first panel of Figure 5 you would enter 1 in the column F corresponding to the 1st significant lag, 2 in the column G corresponding to the 2nd significant lag. For the county in the second panel of Figure 5 you would enter 1 in the column F corresponding to the 1st significant lag, 3 in the column G corresponding to the 2nd significant lag, and 4 in the column H corresponding to the 3rd significant lag;
4. After you do this for 159 counties, select the cell range C2 to W160;
5. Copy these cells;
6. After you have copied "output" of code, there are several steps you need to do before you paste it into *Stata* do file;
7. In *notepad* (or any other simple text editor) paste the text you have copied in *Microsoft Excel*;
8. After you have pasted it, select all (in *notepad* Ctrl+A), and paste it in *Microsoft Word*;
9. In Word, issue replace command (Ctrl+H);
10. In the dialog, "Find what:" should be **!***BREAK***!**, and "Replace with:" should be ^*p*;
11. Now, issue "Replace All" command (Alt+A);
12. Again, select all (Ctrl+A) and copy.

Reproducing the Forecast of Population of Four Year Olds

The code is now ready to be pasted into *Stata* do file. In notepad, open the file called *forecast_template.do*. Look for the following text:

```
********************************
*     PASTE BELOW
********************************



********************************
*     PASTE ABOVE
********************************
```

and paste the code where indicated. Save the file as *forecast_template2.do*, so that original template stays unchanged. You are now ready to reestimate the model and produce new forecasts. To do that, follow these steps:

1. Run *Stata*;
2. Issue the following command: cd "D:\prek" where D:\prek is the folder where *forecast_template2.do* and *data.dta* files are located;
3. Issue the following command: do forecast_template2.do;
4. Let *Stata* run until you see the data window (this process can take up to an hour);
5. Select all six columns in *Stata* data browser. Copy them (Ctrl + C);
6. Go to *Excel*. Select sheet "u15use_2" in *forecast.xls* and go to cell A1;
7. Paste the data (Ctrl + V).

You have updated the forecast.

Adjusting Enrollment Ratios

After you have produced population forecast and after you have estimated enrollment ratios, you have an option of adjusting the enrollment ratios so that you adjust the final Pre-K enrollment forecast. You can adjust the ratio by county by year, for all the years where forecast is to be computed. Just go to *forecast.xls* to sheet "Enrollment ARMA(*p*,*q*)" (or "Enrollment ARMA(*p*,*q*) UPDATE") and in the columns labeled "Adjustments" you can enter the percentage. You should keep in mind that changing the enrollment ratio in only one year does not imply that new ratio holds in other years. Therefore, you have to update every year where you suspect the estimates are off.

About the Authors

Nikola Tasić is a research associate in the Fiscal Research Center of the Andrew Young School of Policy Studies at Georgia State University and is currently finishing his Ph.D. in Economics, writing on the effects of financial development on economic growth. His research interests include state and local public finance reforms in transition countries, intergovernmental transfers, and financial development. Tasić holds B.S. in economics from San Jose State University and M.A. in economics from Georgia State University.

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The Fiscal Research Center provides nonpartisan research, technical assistance, and education in the evaluation and design of state and local fiscal and economic policy, including both tax and expenditure issues. The Center's mission is to promote development of sound public policy and public understanding of issues of concern to state and local governments.

The Fiscal Research Center (FRC) was established in 1995 in order to provide a stronger research foundation for setting fiscal policy for state and local governments and for better-informed decision making. The FRC, one of several prominent policy research centers and academic departments housed in the School of Policy Studies, has a full-time staff and affiliated faculty from throughout Georgia State University and elsewhere who lead the research efforts in many organized projects.

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A Description of the Proposed Comprehensive Revision of Georgia's Tax Structure: HR 900 **(David L. Sjoquist)** This brief is a summary of the provisions of the comprehensive revision of Georgia's tax structure contained in HR 900. FRC Brief 151 (April 2007)

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***Financing Georgia's Future II* (Sally Wallace, David L. Sjoquist, Laura Wheeler, Peter Bluestone, William J. Smith)** This second release of a biennial report focuses on Georgia's taxes, making cross-state comparisons of their structure and exploring revenue performance over time. FRC Report 144 (March 2007)

***The Price Effect of Georgia's Temporary Suspension of State Fuel Taxes* (James Alm and David L. Sjoquist)** This report explores the effect of the fuel tax suspension on the price of gasoline in Georgia. FRC Report/Brief 143 (February 2007).

***An Analysis of the Financing of Higher Education in Georgia* (Nara Monkam)**. This report addresses the issue of the financing of higher education in Georgia by comparing financing in Georgia with other states and examining how financing affects the student population in terms of performance, and retention rates. FRC Report 142 (February 2007)

***Intergovernmental Fiscal Relations in Georgia* (David L. Sjoquist, John Stavick and Sally Wallace)**. This report documents the intergovernmental fiscal system in Georgia, with a focus on the expenditure, revenue, and intergovernmental grant system in the state. FRC Report 141 (February 2007)

***Comparing State Income Tax Preferences for the Elderly in the Southeast* (Jonathan C. Rork)**. This brief looks at the current state of these tax preferences in the Southeast for those states that impose a major income tax and estimates the dollar value of these preferences. FRC Brief 140 (February 2007)

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***Geographic Breakdown of Georgia's Interstate Migration Patterns* (Jonathan C. Rork)**. This brief looks at the geographic breakdown of Georgia's interstate migration patterns for both the elderly and non-elderly. FRC Brief 137 (December 2006)

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Forecasting Pre-K Enrollment in Georgia Counties

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