20th Federal Forecasters Conference

The Roles of Government Forecasts

April 24, 2014 at the Bureau of Labor Statistics, Washington, DC

Sponsoring agencies:
Bureau of Labor Statistics • Department of Veterans Affairs
Economic Research Service • Internal Revenue Service
National Center for Education Statistics • U.S. Census Bureau
U.S. Department of Labor • U.S. Energy Information Administration
U.S. Geological Survey

Partnering organization:
Research Program on Forecasting, The George Washington University

www.federalforecasters.org

Announcement

The 21st

Federal Forecasters Conference

FFC 2015

Will be held

September 24, 2015

in

Washington, DC

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The 20th Federal Forecasters Conference — 2014

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FFC Board

Left to Right: Jeffrey Busse, Jennifer Ortman, Brian Sloboda, Dilpreet Singh,
David Armstrong, William Hussar, Maggie Woodward, Stephen MacDonald, and Arup Mallik.

Foreword

The 20th Federal Forecasters Conference (FFC2014) was held April 24, 2014 in Washington, DC. This meeting continues a series of conferences that began in 1988 and have brought wide recognition to the importance of forecasting as a major statistical activity within the Federal Government and among its partner organizations. Over the years, these conferences have provided a forum for practitioners and others interested in the field to organize, meet, and share information on forecasting data and methods, the quality and performance of forecasts, and major issues impacting Federal forecasts.

The theme of FFC2014, "The Roles of Government Forecasts," was addressed from a variety of perspectives by a distinguished panel.

- Stephen Goss, Chief Actuary, Social Security Administration, discussed the fact that Social Security provides monthly benefits to 60 million retired and disabled workers, their families, and their survivors. The number of citizens receiving benefits is projected to grow in the future. The Social Security Administration's projections provide a tool for those seeking to address how the nation might balance this growth with the national ability and willingness to pay benefits.
- Mary Bohman, Administrator, Economic Research Service, U.S. Department of Agriculture (USDA), discussed forecasts of key indicators for the food and agriculture sector. These estimates support an array of other forecasts including exports, farm income, and food prices. All together, these forecasts represent a system of information that can be used by decision makers.
- Neil Ericsson, Senior Economist, Federal Reserve Board, and Research Professor, The George Washington University, discussed the evolving roles of forecasting in the conduct of monetary policy, focusing on the U.S. experience. Forecasts can advise policymakers of possible outcomes under a range of alternative economic scenarios. They also can serve to communicate the central bank's views of the economy's future and of possible future monetary policy.

The morning panel offered perspectives on how to be intelligent consumers of Federal forecasts. The concurrent afternoon sessions educated attendees on how to adapt forecasting techniques to particular challenges in both Federal and other settings.

Acknowledgements

Many individuals contributed to the success of the 20th Federal Forecasters Conference (FFC2014). First and foremost, without the support of the cosponsoring agencies and the dedication of the Federal Forecasters Consortium Board, FFC2014 would not have been possible.

Jeffrey Busse, of the U.S. Geological Survey, opened the morning program and introduced Erica Groshen, Commissioner of the Bureau of Labor Statistics, who gave the welcoming remarks. Brian Sloboda, of the U. S. Department of Labor, announced the winners of the 2014 Forecasting Contest. Herman Stekler, from The George Washington University's Reasearch Program on Forecasting, announced the FFC2012 Best Conference Paper Awards. Jeffrey Busse presented award certificates. Christine Klucsarits, of the U.S. Census Bureau, took photographs. Jennifer Ortman, also of the U.S. Census Bureau, moderated the morning panel presentations and discussion.

Maggie Woodward, of the Bureau of Labor Statistics (BLS), organized the afternoon sessions. William Hussar, of the National Center of Education Statistics, prepared the papers from the afternoon sessions for inclusion in this publication. All members of the Federal Forecasters Consortium Board worked hard to provide support for the various aspects of the conference, making it the success it was.

Many thanks to the afternoon session chairs, who volunteered to organize and moderate the afternoon presentations. The session chairs are listed within these proceedings.

Special thanks go to Tara Sinclair and Frederick Joutz, of The George Washington University, for reviewing the papers presented at the 19th Federal Forecasters Conference and selecting the winners of the Best Conference Paper Awards for FFC2014.

Special thanks also go to Demetric Sewell of the U.S. Census Bureau, for staffing the registration desk.

We also thank the Society of Government Economists for providing coffee and snacks.

FFC2014 was hosted by the BLS at their conference and training facility. The contributions of a number of BLS staff helped make this conference so successful. Foremost, were Maggie Woodward who oversaw the overall preparation and clean up. Dennis Vilorio designed and prepared the graphics for the conference poster, program, and proceedings cover. Additionally, special thanks also go to the staff of the BLS Conference and Training Center, who once again helped to make the day go smoothly.

Kellie Schelach of U.S. Department of Veterans Affairs produced the conference program, and this publication, which is an invaluable contribution.

Finally, we thank all of the attendees, discussants, and presenters whose participation made FFC2014 a successful conference.

2014 Federal Forecasters Conference

2014 Contest Winners

Announcing the awards:

Brian W. Sloboda
Office of Regulatory and Programmatic Policy
U.S. Department of Labor

Winner:

Roger Moncarz
U.S. Department of Labor
Bureau of Labor Statistics

2nd Place:

Pete Rossi
U.S. Department of Defense
Office of the Actuary

3rd Place:

Tom Garin
U.S. Department of Veterans Affairs

The 20th Federal Forecasters Conference

2012 Best Conference Paper Awards

Announcing the awards:

Herman Stekler
Research Program on Forecasting
The George Washington University

Winner

"A Simple Model for Estimating Potential Output"

Maggie Woodward
U.S. Bureau of Labor Statistics

Second Place

"The Role of Forecasting in the Federal Judiciary"

John Golmant, James Woods, and Kevin Scott
Administrative Office of the U.S. Courts

The 20th
Federal Forecasters Conference
FFC2014

Scenes from the Conference

Photos by
Christine Klucsarits
U.S. Census Bureau
U.S. Department of Commerce

Left to Right: Maggie Woodward, and Jeffrey Busse.

Jeffrey Busse is presenting the certificate to the Winner of the Best Paper Competition, chosen from among the papers presented at the 19th Federal Forecasters Consortium Conference.

Left to Right: Kevin Scott, James Woods, John Golmant, and Jeffrey Busse.

Jeffrey Busse is presenting the Second Place award to the three co-authors of the Best Paper Competition, chosen from among the papers presented at the 19th Federal Forecasters Consortium Conference.

Left to Right: Brian Sloboda, and Tom Garin.

Brian Sloboda is presenting the Third Place certificate to Tom Garin, of the U. S. Department of Veterans Affairs, in the 2014 Forecasting Contest.

Herman Stekler announcing the Best Paper Winners of those papers presented at the 19th Federal Forecasters Consortium conference.

Jennifer Ortman introducing and welcoming the morning panelists to the podium.

Erica Groshen, Commissioner, Bureau of Labor Statistics, U.S. Department of Labor, with opening remarks and welcoming the attendees to the 20th Federal Forecasters Conference

Neil Ericsson, morning panelist, presenting his paper, "Forecasting and Monetary Policy Analysis."

Panel Discussion

The Roles of Government Forecasts

Government forecasts are critical to assessing the future needs of the nation. These forecasts are used by those in the public and private sectors for planning and decision-making in a variety of areas: agriculture, energy, the environment, demographics, geological hazards, healthcare, job trends, social security, veteran's issues, and more. For example, policy makers use forecasts to create laws, direct resources and establish budgets. Individuals use forecasts of salary and employment trends to decide whether to buy a home. Government agencies are also consumers, using forecasts of weather and commodity supply and demand to project crop yield and prices. Labor force projections are also based on government produced projections of the population.

At this 20th annual Federal Forecasters Conference, presenters from a variety of agencies will share their experience in developing and using forecasts. Add you voice to the conversation! Please join our discussion of the unique role played by Federal forecasts, and how forecasts are used by the government, private industry, and the public.

Moderator

Jennifer Ortman
U.S. Census Bureau
U.S. Department of Commerce

Panelists

Stephen Goss
Chief Actuary
Social Security Administration

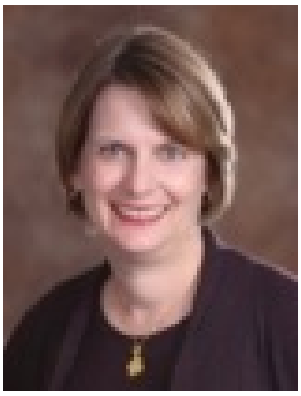
Mary Bohman
Administrator
Economic Research Service
U.S. Department of Agriculture

Neil Ericsson
Senior Economist, Federal Reserve Board
Research Professor, The George Washington University

Stephen Goss
Chief Actuary
Social Security Administration

Social Security Projections and Financial Challenges for the Future

Social Security provides monthly benefits to 60 million retired and disabled workers, their families, and their survivors. Over the past 20 years, disability costs have grown rapidly, and retirement costs will grow in the next 20 years. These growing costs are primarily caused by demographic factors, which are not generally well-understood. Congressional action to meet the coming financial challenges will be guided by projections of future benefit and revenue levels and the nation's ability and willingness to pay for the benefits we want.



Mary Bohman
Administrator
Economic Research Service
U.S. Department of Agriculture

USDA Agricultural Sector Forecasts: A System of Information

The Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) provides forecasts of key indicators for the food and agriculture sector. ERS participates in USDA's Interagency Commodity Estimates Committee (ICEC) that releases monthly forecasts of U.S. and world commodity markets. These estimates support an array of other forecasts including exports, farm income, and food prices. ERS also leads development of USDA's 10-year baseline projection of agricultural markets. The different forecasts support USDA programs, inform private sector decisions, and serve as the basis for ERS research. Key challenges include access to data, developing models of rapidly changing markets, and incorporating expert judgment.

Neil Ericsson
Senior Economist, Division of International Finance
Federal Reserve Board
Research Professor, The George Washington University

Forecasting and Monetary Policy Analysis

This presentation reviews and assesses the evolving roles of forecasting in the conduct of monetary policy, focusing on the U.S. experience. Forecasts can advise policymakers of possible outcomes under a range of alternative economic scenarios. They also can serve to communicate the central bank's views of the economy's future and of possible future monetary policy ("forward guidance"). If forecast errors are systematic, the corresponding forecasts may be amenable to improvement and robustification. This presentation illustrates the uses of and analysis of forecasts with the Fed's historical Greenbook forecasts of U.S. economic growth, inflation, and unemployment.

Concurrent Sessions I

Hands on Demonstration of the U.S. Census Bureau's Subnational Projections Toolkit

Session Presenter: *Peter Johnson, U.S. Census Bureau*

Population projections provide a foundation for a wide range of program planning and evaluation tasks at national, regional, and local government authority levels. The Census Bureau's Subnational Projections Toolkit provides a number of tools for preparing cohort-component projections, several tools for non-cohort-component projection, and a User's Guide explaining the tools. It differs from earlier presentations of subnational and local projection methods in two ways. First, the Toolkit comprises both methodological description and software tools. Second, the Toolkit explicitly links cohort-component and non-cohort-component tools as parts of a coordinated approach to subnational projection. This workshop will provide a demonstration of these software tools and the ways in which they work with the Census Bureau's Rural-Urban Projections (RUP) and RUPAGG projection software. This presentation focuses on description of six of the Excel workbooks included in the Toolkit, including tools for non-cohort-component projection, tools for making assumptions for cohort-component projection, and tools for integrating cohort-component projections.

Imperfect Information and Expectations Formation

Session Chair: *Xuguang (Simon) Sheng, Department of Economics, American University*

What Have We Learned From The Greenbook Forecasts? A Synthesis and Extension
Tara Sinclair, Herman Stekler and Jeff Messina, Department of Economics, George Washington University

This paper has two objectives. The first is to synthesize the results of the numerous previous evaluations of the Fed's Greenbook forecasts. From this synthesis we are able to derive a set of stylized facts that characterize the qualities of the best US macroeconomic forecasts. Second, we examine the revisions of the forecasts of fixed events to determine how new information is incorporated in the forecasting process. These results appear surprising because in some instances the revisions were in the wrong direction and increased the forecast errors.

Information Rigidity in Macroeconomic Forecasts: An International Empirical Investigation
Xuguang (Simon) Sheng and Jonathan Wallen, Department of Economics, American University

Using the Consensus Forecasts at the micro level, we investigate information rigidities in professional forecasts of inflation and GDP across the G7 countries. By developing a new measure of information rigidity, we find that professional forecasters update their information sets every three to four months. From this new measure, we identify a set of stylized facts: information rigidities vary across forecasting horizons, individuals, countries, and time. To explain the state dependency in information rigidity, we explore potential determinants: uncertainty and economic policy. We find that professional forecasters are less inattentive in periods with high economic uncertainty and market volatility. Furthermore, policy makers may decrease information rigidity through better communication of economic policy.

Inflation Experience and Inflation Expectations: Dispersion and Disagreement Within Demographic Groups
Benjamin Johannsen, Federal Reserve Board

I document that households with low levels of income (education) have greater dispersion in experienced inflation than households with high levels of income (education). I show that the same demographic groups with high levels of dispersion in experienced inflation also disagree more about future inflation. I argue that these empirical regularities can be rationalized from the perspective of an imperfect information model in which different groups receive signals about aggregate inflation with different amounts of within-group noise.

Forecasting for Internal Use: Enhancing Government Efficiency

Session Chair: *Dilpreet Singh, Veterans Health Administration, U.S. Department of Veterans Affairs*

Forecasting U.S. Disability Applications

Kajal Lahiri and Yimeng Yin, University at Albany: SUNY

This paper compares various models for short-term forecasts of US disability applications at national and state levels using SSA Monthly Workload Data from 2000:10 to 2013:1. The results of the out-of-sample analysis suggests that 1) direct time series forecasts of the national level series outperform forecasts from aggregating state level forecasts; 2) imposing homogeneity restrictions on model parameters across states reduces forecast errors for the state-level forecasts; 3) using local unemployment rates as leading indicators improves both the national level and state level forecasts; and 4) explicit modeling of cross-state dependence through spatial models fails to produce more accurate forecasts.

IRS Individual Electronic Remittance Strategy – Conversion of Paper Payments to Electronic

Ashley Kent and Leann Weyl, Internal Revenue Service

In 2005, Treasury set a goal of 80% electronic payments for all government agencies. The IRS has made progress towards that goal but has not yet reached it. Payments from individual taxpayers to the IRS are still largely paper check payments, with only 26% electronic in 2013. The Government's objective is to minimize the total cost of collecting funds for deposit to Treasury. The IRS developed an Enterprise Remittance Strategy designed to help prioritize initiatives and implement programs to migrate individual paper payments to electronic transactions. Although there are many initiatives that have been put into action to convert paper payments to electronic, the focus of this analysis is the IRS Direct Pay option. IRS Direct Pay was launched in November 2013 and piloted through the first quarter of 2014 with marketing to a select group of tax payers. The IRS plans to start broadly marketing it beginning April 18th, 2014 to all tax payers through the IRS.gov website. We will present baseline projections of the total individual payments at the US level by filing medium and will quantify the impact of Direct Pay on the total individual electronic payments made to the IRS.

The Challenge in Forecasting Federal Employee Retirements

Taylor Lewis, Karl Hess, Stanislas Ezoua, and Mircea Marcu, U.S. Office of Personnel Management

In recent years, the portion of the Federal workforce eligible for full retirement benefits has risen appreciably, prompting some to predict an upcoming torrent of retirements. If true, this would pose significant human resource challenges with respect to succession planning and retirement claims processing. In this talk, we provide a brief synopsis of recent attempts to assess this risk by predicting civilian Federal workforce retirements using personnel data maintained by the U.S. Office of Personnel Management, data from the Federal Employee Viewpoint Survey, and macroeconomic indicators.

The Impact of Inputs: Evaluating Forecasts

Session Chair: *Arup Mallik, U.S. Energy Information Administration, U.S. Department of Energy*

Impacts of Alternative Crude Oil Prices on U.S. Agricultural Sector Projections

Jeremy D'Antoni, Ralph Seeley, David Torgerson, and Paul Westcott, Economic Research Service, USDA

A key assumption in the long-term USDA agricultural projections is for crude oil prices. Energy prices are important for agricultural production costs, and the agriculture and energy sectors have become more intertwined in recent years due to the growth of biofuels. Long-term projections for oil prices have changed over the past year. EIA's 2014 *Annual Energy Outlook* oil prices are lower than the year before and below those USDA assumed in its January 2014 long-term projections. We analyze the impact of different energy projections on agriculture, particularly crops.

Trends and Cycles in the U.S. Labor Market

Amy Y. Guisinger and Tara M. Sinclair, Department of Economics and Institute for International Economic Policy, Elliott School of International Affairs, The George Washington University

There has been substantial debate in the recent literature about the role of trend versus cyclical movements in the U.S., particularly for the 2007-2009 recession. In this paper we analyze different trend and cycle filters in order to better understand the driving forces of the "Great Recession." We move beyond traditional aggregate unemployment statistics to include other labor market indicators and disaggregated series by different subpopulations. We find conflicting results for the relative variability of the series' components when using different filters and different subpopulations. Therefore, the level of aggregation and the filtering method can lead to different policy implications.

Comparing the Prediction Ability of Farmland Value Models

Ryan Kuhns, Economic Research Service, USDA

The USDA Economic Research Service is responsible for forecasting the asset, debt and equity levels for the agricultural sector. Historically, real estate, in the form of farmland, has made up more than seventy percent of the sector's assets. Consequently, the ability to accurately forecast farmland prices is integral to correctly predicting the farm sector's financial position. This paper applies multiple econometric methods to several common economic models of farmland prices. The results are compared for forecast accuracy in order to determine the approach with the best prediction

Concurrent Sessions II

Picturing America's Future Through Forecasts

Session Chair: *Jeffrey Busse, U.S. Geological Survey, U.S. Department of the Interior*

Projecting U.S. Immigration Using Sending Country Emigration Rates: 2011-2060
Mark A. Leach, David M. Armstrong, Jennifer M. Ortman, Population Division, U.S. Census Bureau

This paper presents projections of foreign-born immigration to the United States, a component of the U.S. Census Bureau's national population projections. Demographers typically use recent patterns of immigration to project future immigration. Our projections are based on estimates of sending-country emigration to the United States, which are used in conjunction with population estimates for those countries to estimate emigration rates between 1980 and 2010. In this paper emigration rates are projected using a constant average, linear extrapolation, and models based on future age structures. The projected rates from these methods are applied to sending country populations, and the resulting projections of foreign-born immigration are compared.

Will inequality continue to rise? Forecasting income inequality in the United States
Marina Gindelsky, The George Washington University

Recently, an idea has emerged that "the rich are getting richer and the poor are getting poorer," with the belief that this trend will continue, or even intensify. Changes in demographics, labor market participation, wage polarization and the Great Recession have brought this issue to the forefront. Using CPS data for individuals and households and top income shares from Piketty and Saez (2010), this paper forecasts several series of inequality measures. Though the existing empirical literature has found many macroeconomic, labor force, and wage structure determinants of income inequality, the results show that forecasts based on simple autoregressive processes and naïve approaches often outperform structural models.

Retail Food Price Inflation and Food Expenditures
Annemarie Kuhns, Richard Volpe, Economic Research Service, USDA

The USDA Economic Research Service forecasts retail food prices based on the CPI and PPI, data products of the Bureau of Labor Statistics. ERS forecasts provide important signals to farmers, processors, wholesalers, consumers, and policymakers alike. The presentation will include a discussion on how expected changes in wholesale and retail food prices are used along with the latest changes and emerging trends in the food price outlook. We also discuss how food price inflation shapes trends in consumer expenditures and how CPI forecasts may be used to predict food expenditures across sociodemographic groups.

U.S. consumers: still an engine for U.S. job growth? Consumer spending and employment from the "Great Recession" through 2022
Stephanie Hugie-Barello, U.S. Bureau of Labor Statistics

In the latest recession, employment supported by U.S. consumer spending declined by nearly 3.2 million jobs between 2007 and 2010, over a third of total job loss during that time frame. Through 2022, consumer spending is projected to be a stable source of job growth with increasing expenditures on labor-intensive services like health care. However, consumer spending and its related employment are projected to grow slower than in the past and at rates similar to the overall economy.

Techniques in Forecasting

Session Chair: *Maggie Woodward, U.S. Bureau of Labor Statistics*

Evaluating ARIMA Models to Project International Services Trade Accounts

Benjamin Bridgman, Alexis Grimm and Ryan Howley, U.S. Bureau of Economic Analysis

The Bureau of Economic Analysis publishes certain statistics prior to receiving all source data, necessitating forecasts. We explore whether time series modeling techniques could replace current methods for forecasting international services accounts. This paper focuses on two series: royalties and license fees and overseas travelers, a component used to calculate international travel expenditures. While we find time series models to forecast the number of overseas travelers show promise, our work has also exposed difficulties in evaluating forecasting performance when there are changes in the definitions of series and in the instruments used to collect source data.

Forecasting a Large Number of Series: A Visual Excursion through Organization, Segmentation, and Hierarchies

Michele Trovero, SAS Institute Inc.

The first challenge that analysts face when they forecast a large number of series is how to organize the data in a way that is efficient for their forecasting tasks. At times, a hierarchical structure arises naturally, such as when the data have a geographical component. However, the data might need further segmentation, or a different hierarchy or a different time interval might be more suitable for forecasting. This presentation distinguishes between reporting and forecasting hierarchies and shows visual tools and strategies that you can use to organize a large number of series.

Online Forecasting and Model Selection with Panel Data

Brian Scholl, Institute for the Study of Labor (IZA)

I extend approaches hitherto developed in the time series forecasting literature to devise a prospective forecasting framework that simulates the forecaster's real-time information constraints and provides a deterministic rule-based approach to model selection. I extend the literature by developing a framework for dealing with panel data and by establishing a performance-based model selection rule. Forecasts for sample series generated from the simple rules and restrictions imposed in this paper lead to a reduction in Root Mean Squared Forecast Error (RMSFE) of as much as 65 percent over a benchmark model.

Applications of Forecasting

Session Chair: *Stephen MacDonald, Economic Research Service, U.S. Department of Agriculture*

The Trajectory of Psycho-Social Depression in Ukraine Following the Chornobyl Nuclear Accident

Robert Alan Yaffee, Thomas B. Borak, RoseMarie Perez Foster, Remy Frazier,
Mariya Burdina, Victor Chtenguelov, and Gleb Prib

Our objectives were to examine predictive parameters of psychological impacts, resulting from the Chornobyl accident, on residents living in the oblasts of Kiev and Zhitomyr. We tested drivers for psycho-social depression based on estimates radiological dose received from radioactivity release during the accident and the perception of increased health effects associated with this radiation. To obtain a representative sample of individuals, we attached computer generated random numbers to area codes provided by the telephone company. In January 2009, Russia created an intervening crisis by interrupting supplies of natural gas to the Ukraine. We employed modified scenario forecasting to circumvent crisis effects that could otherwise undermine the internal validity of our study. State space methods were used to model and graph trajectories of psycho-social depression reported by male and female respondents. Results of the dose reconstruction process revealed that the dose received by this population was too low to identify pathological disease or injury. From our empirical analysis, we found that the psychological impacts of the nuclear incident stemmed from perceived risks, rather than actual exposure to radiation directly associated with the Chornobyl nuclear accident. Work funded by NSF HSD Grant 082 6983.

Predicting Somatic Cell Counts in Dairy Marketing: Quantile Regression for Count Data

Timothy Park & Richard J. Volpe, Economic Research Service, USDA

We study the determinants of somatic cell count (SCC) measures of the quality of farm milk on U.S. dairies. The overall goal is to identify the potential impacts of buyer-imposed penalties and incentives within the supply chain. We estimate quantile regression for count data to measure impacts for those operations with the highest SCC and apply a prediction technique to identify dairies that are producing milk that meets the SCC standards. Premiums in particular have the potential to reduce SCC considerably where it is currently the highest. We draw implications for profitability in relation to SCC reduction.

Greenbook Forecasts and the Business Cycle

Neil R. Ericsson, Stedman B. Hood, Fred Joutz, Tara M. Sinclair, Herman O. Stekler; Federal Reserve Board and The George Washington University

Building on Sinclair, Joutz, and Stekler (2010), this paper examines the Federal Reserve Board's Greenbook forecasts of U.S. output growth, inflation, and the unemployment rate for potential biases. Standard tests typically fail to detect biases in current-quarter and one-quarter-ahead forecasts. However, impulse indicator saturation (IIS) detects economically large and highly significant time-varying biases for one-quarter-ahead forecasts. Biases depend on the variable being forecast, the forecast horizon, and the phase of the business cycle. IIS defines a generic procedure for examining forecast properties, it explains why standard tests fail to detect bias, and it provides a potential mechanism for improving forecasts.

Analyzing Tax Deductions and Social Programs Over Time and Across Areas: A Simple Framework

Session Chair: *Brian Sloboda, U.S. Department of Labor*

Comparing Itemized Tax Deductions across States: A Simple Decomposition Applied to Mortgage Interest Deductions

Quentin Wodon, World Bank

This paper proposes a simple multiplicative decomposition that can help in comparing the levels of mortgage interest tax deductions observed in different states or areas, and some of the reasons leading to different levels of deductions. The key parameters in the decomposition are a state's population, its number of tax filers, the share of filers claiming a specific deduction, the average taxes paid by filers, and the average deduction among claimants. The idea is that such simple decompositions can be useful for states and local authorities to better understand some of the reasons why they may have comparatively high or low deductions in their state, and whether the levels of deductions observed are as one might have expected given their overall tax receipts.

Accounting for Trends in Charitable Tax Deductions: Framework and Application to the District of Columbia

Farhad Niami, Office of the Chief Financial Officer, District of Columbia Office of Revenue Analysis

Charitable tax deductions are one of the largest tax expenditures at the state and federal levels, and they are also crucial for the sustainability of the charitable nonprofit sector. Understanding some of the factors that drive changes in charitable tax deductions over time is needed to inform policy. This paper uses a simple multiplicative decomposition to analyze trends in charitable tax deductions with an application to data from the District of Columbia over the period 2001-2011, thus including the recent recession. The decomposition shows how changes in the District's population, the share of the population that files tax returns, the share of filers that claim the deduction, the average adjusted gross income of filers, and the average deduction claimed by claimants all contributed to the overall changes in the level of the deductions. The decomposition is applied for the District's population as a whole as well as by income group.

Social Policy at the Local Level During the Great Recession: Trends in EITC Outlays by Zip Code in the District of Columbia

Naina Wodon, Nonprofit Research Project

How important has the Earned Income Tax Credit been for low income tax filers before and during the great recession? Using data from the Brookings Institution's Earned Income Tax Credit Series, this paper looks at trends in EITC outlays over time and by zip code in the District of Columbia over the last decade. A simple multiplicative decomposition is used to analyze the main factors affecting changes over time and differences between areas in the income transfers provided to tax filers through the EITC.

Reducing Hunger in Times of Economic Crisis: Trends in Federal Food Assistance by State

Divya Wodon, Nonprofit Research Project

During the great recession, federal food assistance programs including SNAP (Supplemental Nutrition Assistance Program) and the school lunch program played a key role in protecting vulnerable households and children from hunger. This paper relies on a simple multiplicative decomposition to analyze trends in outlays over time and between states for these and other programs operated by the United States Department of Agriculture in order to understand some of the factors that result in differentiated trends