

Department of Economics University of Maryland www.inforum.umd.edu

Contact: Jeff Werling (301) 405-4607 werling@econ.umd.edu January 2014



### **Introducing Inforum**

Since its founding over 45 years ago, Inforum<sup>1</sup> has been dedicated to improving business planning, government policy analysis, and the general understanding of the economic environment. It accomplishes this mission through:

- Building and using structural economic models of U.S. and other national or regional economies. Inforum pioneered the construction of dynamic, general equilibrium models which portray the economy in a unique "bottom-up" fashion.
- Working with government and private sector organizations to investigate a variety of issues. Economic projections and analysis using Inforum econometric models are distinguished by detail at the industrial and product level.
- Serving as a training crucible for University of Maryland undergraduate and graduate students. Students receive valuable training in empirical economics and find fertile ground for research.
- Maintaining active ties with a world-wide network of research associates, each of which uses Inforum modeling methods and software. The partners have held annual conferences since 1993. The 2013 conference was held in Listvyanka, Russia.

Most analyses involve the development and use of Interindustry-Macroeconomic (IM) models that combine input-output structure with econometric equations in a dynamic and detailed framework. Because of their ability to portray the detailed structure of economies over actual time periods, these models fill an important gap in the inventory of existing models of the U.S. and foreign economies. The models are often used to answer "what if" questions on the impact across industries of fluctuation in the macroeconomic environment, such as changes in exchange rate or tax policy. For the United States, the effects on demands, revenue, production and trade can be described at a level of 110 sectors, or in some cases, for 360 cases.

Inforum services include macroeconomic and industrial forecasting and "satellite" modeling to connect data for more detailed sectors to a more aggregated environment. Many subscribers use our software and models on their computers for routine analysis or issue-specific research. We also perform analytical research and computations of economic or other data, with particular expertise in input-output techniques, global and regional economic data, and international market comparisons.

Inforum researchers learn the details concerning the meaning and compilation of economic data so that this data can be deployed in the most relevant and meaningful fashion. We are dedicated to timely, thorough and reliable assistance to our research sponsors. Finally, Inforum explores economic phenomena and principles in a nonpartisan fashion, according to generally accepted economic theory and econometric methods, regardless of the implications for public policy or private strategy.

<sup>&</sup>lt;sup>1</sup> Inforum stands for the INterindustry FORecasting at the University of Maryland, and it is the popular name for the not-for-profit economic education and research corporation, the Interindustry Economic Research Fund (IERF). IERF handles contracts and subscriptions; a substantial portion of its receipts are donated to the University of Maryland where the research is accomplished. Please visit our website at: www.inforum.umd.edu.

## **Inforum Models**

Most of Inforum's analyses are based on Interindustry-Macroeconomic (IM) models that combine input-output structure with econometric equations in a dynamic and detailed framework. Inforum's flagship model, LIFT (Long-term Interindustry Forecasting Tool), is a 110-sector general equilibrium representation of the U.S. economy that employs a "bottom-up" approach to macroeconomic modeling.

In a typical IM model, quantities such as total capital investment, total imports and total profit income are not projected directly but are computed from the sum of their parts: investment by production branch, imports by commodity, and profits by industry. This bottom-up technique possesses several desirable properties for analyzing the economy. For example, industry-specific changes in government policies or market setting can be individually specified, and the impact of these industry-level changes on related sectors and on the aggregate economy can be identified. At the same time, the impact of macroeconomic events such as exchange rate changes or fiscal policy can be traced to and illustrated at the sectoral level.

LIFT's structure provides detailed and detailed simulation results for macroeconomic variables such as the GDP and its components, inflation, employment, financial markets, government accounts, and international balances. At the sectoral level, the model provides data and results for revenue and production, consumption and government demand, capital investment and profits, employment and wages, and exports and imports.

Inforum builds and maintains other models of the U.S. economy including:

- ILIAD, a 360 sector model that uses the results of Lift to develop forecasts and simulations at a more detailed level.
- Demographic Projection Model (DPM), a population forecasting system that produces forecasts by gender and age.
- State Employment Modeling System (STEMS), a model which allocates national Lift results for industrial production, employment and income by each state.

In addition, Inforum's International System of Models links the U.S. economy with its 12 major trading partners. Specifically, in cooperation with research partners throughout the world, Inforum maintains and uses Interindustry Macro Models (i.e., similar to Lift) for several countries including:

Austria	Italy
Belgium	Japan
Canada	Mexico
China	Spain
France	South Korea
Germany	United Kingdom

These models are tied together at the detailed commodity level through a Bilateral Trade Model (BTM). This model has the capability to perform unique studies on global developments such as changing exchange rates or new trade liberalization.

# **Inforum Project Examples**

#### **Federal Agencies:**

- Appalachian Regional Commission Economic Impact of Energy, Environmental and Investment Policies in Appalachia
- Center for Medicare and Medicaid Services(CMS) Illustrate the long-term economic and structural implications of delivering and financing health care expenditures, including evaluations of impacts of different macroeconomic and demographic assumptions, health policies, and health technologies.
- Department of Defense
  Develop and maintain DEPPS, the Defense Employment and Purchases Projection System, which calculates the macroeconomic, industrial, and regional effects of defense spending.
- President's Council of Economic Advisors Provide employment forecasts by industry for "Preparing the Workers of Today for the Jobs of Tomorrow."
- Department of Energy Investigate trade and other consequences of carbon pricing for the United States and China.
- Department of Commerce Describe the economic impacts of energy price and exchange rate fluctuations. Develop detailed industry carbon emissions calculator.
- Congressional Budget Office Assess economic impacts of port closures. Analyze budgetary impacts of defense expenditures.

#### **Private Sector:**

- National Association of Manufacturers Evaluate the impact of lower government spending on U.S. employment and income.
- National Center for Smart Growth Assist the development of a Maryland state and county model. Use the model to formulate economic scenarios for land-use planning.
- Business Roundtable Investigate technological and economic consequences of CO2 emissions reduction policies.
- American Petroleum Institute Assess the total economic impact of oil and gas industries.
- Energy Security Leadership Council /Securing America's Future Energy Evaluate economic impacts of Congressional proposals and legislation.
- Booz-Allen Hamilton Estimate consequences on U.S. and Asian economies of U.S. port shutdown scenarios.
- Manufacturer's Alliance (MAPI) Conduct special studies on the future of manufacturing in America, foreign trade liberalization, and corporate taxes.