Infographics at the Congressional Budget Office

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ABSTRACT
The Congressional Budget Office (CBO) is an agency of the federal government with about 240 employees that provides the U.S. Congress with timely, nonpartisan analysis of important budgetary and economic issues. Recently, CBO began producing static infographics to present its headline stories and to provide information to the Congress in different ways.

Keywords: infographics, data visualization, federal budget, federal government.

Index Terms: E.0 [Data—General]: A [General Literature].

1 INTRODUCTION
In the nearly 40 years since its founding, the Congressional Budget Office (CBO) has released thousands of reports about various budgetary issues and tens of thousands of cost estimates of proposed legislation. In the summer of 2011, CBO started releasing static infographics—stand-alone documents that present data, statistical results, text, and graphics in a more easily digestible format. Over the next year, CBO produced 12 infographics, ranging in topic from the federal budget to deforestation and greenhouse gases, the Troubled Asset Relief Program, the Supplemental Nutrition Assistance Program (formerly Food Stamps), and the Disability Insurance program. CBO’s infographics are generally tied directly to a report on the same subject, so some readers can use them to glean the headline story, and others can use them as an entry point into the longer report that contains details of the analysis. The success of CBO’s infographic efforts—as indicated by positive reactions from Members of Congress, their staffs, other policy analysts, the press, and the public—suggests that such efforts are aiding CBO’s mission of providing information to the Congress.

2 A PRIMER ABOUT THE CONGRESSIONAL BUDGET OFFICE
CBO was founded in 1974 to furnish the Congress with independent, nonpartisan, timely analysis of economic and budgetary issues to support the Congressional budget process. CBO does not make policy recommendations, and the assumptions, methods, and data that it uses are disclosed in its reports and cost estimates.

CBO provides budgetary and economic information in a variety of ways at different points in the legislative process. Its products fall into 9 broad categories:

- Economic forecasts and baseline budget projections. CBO’s reports on the outlook for the economy and the federal budget cover the 10-year period used in the Congressional budget process.
- Long-term budget projections. CBO also provides the Congress with budget projections that focus on longer time spans—typically 25 years, but in some cases as much as 75 years into the future.
- Analysis of the President’s budget. CBO estimates the budgetary impact of the proposals contained in the President’s budget using its own economic assumptions and estimating techniques.
- Cost estimates. CBO provides formal written estimates of the cost of virtually every bill “reported” (approved) by a Congressional committee to show how the bill would affect spending or revenues over the next five years or more.
- Analysis of federal mandates. CBO analyzes the projected costs that state and local governments or the private sector would incur as a result of mandates in proposed legislation.
- Scorekeeping for legislation. CBO provides the Congress with frequent tabulations of the budgetary impact of Congressional actions that affect spending and revenues.
- Budget options. CBO periodically produces reference volumes that discuss a variety of options for reducing budget deficits.
- Monthly Budget Review. CBO issues a monthly analysis of federal spending and revenue totals for the previous month, the current month, and the fiscal year to date.
- Studies. CBO produces a large number of studies and analyses on a wide array of other topics related to the federal budget and the economy, such as health care, income security, education, tax policy, energy, the environment, national security, financial issues, and infrastructure.

In fiscal year 2011, CBO released over 1,200 formal publications, including 475 formal cost estimates, 440 mandate statements, and 175 scorekeeping tabulations. Between August 2011 and August 2012, CBO also released 12 infographics.

3 CREATING CBO’S INFOGRAPHICS
To date, CBO’s infographics are static representations of reports that try to present information and analysis in new and innovative ways. Those infographics highlight the most important elements of an analysis for readers. With many topics, interested readers might have to search through one or more reports to find the information they are looking for; infographics try to present the most important numbers in a form that can be absorbed quickly and easily.

3.1 Software and Preparation
CBO’s infographics are generally constructed using a combination of software products including Excel, Stata, SAS, R, Processing, and StatPlanet. Other programs are used as needed. The Adobe Creative Suite (Illustrator, Photoshop, and InDesign) is used to pull all of the text, graphic, and design elements together.

CBO’s infographics are the culmination of significant amounts of research, data analysis, and model building that CBO conducts as part of its mission to support the Congress. Underlying each infographic is a team of analysts who perform research about questions of interest to lawmakers.

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3.2 CBO’s Infographic Design Principles

As an agency, CBO does not have a defined set of principles for infographic design. For instance, it does not use a single color scheme, font type, or graphic design theme in all of its infographics. With each infographic, however, CBO provides sources and links to associated reports, as well as a PDF version of the infographic for readers who want a printed copy. In general, CBO tries to follow the principle of reducing chart junk, as set out by Edward Tufte (1983), and good data visual design concepts, as discussed by, for example, Stephen Few (2009). Thus, for example, CBO tries to minimize the number and importance of gridlines and tick marks.

The structure of CBO’s infographics typically follows the organization of the associated report. For example, in its infographic on the Supplemental Nutrition Assistance Program (see Figure 1)—which accompanied a CBO issue brief—panels of the infographic more or less matched the sections of the accompanying report. The infographic also contained some information not explicitly shown in the report, and vice versa.

Figure 1: The first panel of CBO’s infographic on the Supplemental Nutrition Assistance Program.

CBO has released four infographics on components of the federal budget that were not explicitly tied to a particular report. Its first infographic on the entire federal budget presented details about spending, revenues, deficits, and debt over time. It also included basic definitions for readers who may not be familiar with various budget concepts. With the success of that graphic, CBO produced three other infographics that showed more detail about the components of spending and revenues.

4 FEEDBACK

CBO’s infographics have received positive reactions from Members of Congress and their staffs as well as from various think tanks, government agencies, members of the press, and the data visualization community. Responses have indicated that the graphics are successfully highlighting the most important pieces of information in an easily digestible format. Even some researchers familiar with the topics in question have reported that they found CBO’s infographics to be useful summaries of information. In addition, CBO has received reports of teachers using the infographics in their classes. Several of the infographics have also been featured on various websites and blogs and have been used in Congressional hearings.

5 CONCLUSION

CBO produces independent, nonpartisan, timely analysis of economic and budgetary issues to support the Congressional budget process. The agency’s long tradition of nonpartisanship is evident in each of the dozens of reports and hundreds of cost estimates that its economists and policy analysts produce each year. CBO now also produces infographics for readers who want a more graphical format that highlights the most important points of an analysis. CBO’s infographics are not meant to replace the agency’s complex analyses or reports but rather provide a complementary way to present information—thus helping Members and their staff to better understand the issues that CBO analyzes and the results of those analyses.

REFERENCES
