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# Economic Intelligence

## Enhancing the Federal Statistical System to Support U.S. Competitiveness

Andrew D. Reamer January 2012

The second report in a series on U.S. science and economic competitiveness from the Doing What Works and Science Progress projects at the Center for American Progress

## About this series on U.S. science and economic competitiveness

The U.S. Congress in late 2010 asked the Department of Commerce to complete two studies as part of the reauthorization of the America COMPETES Act. The first, which was released on January 6th, 2012, at the Center for American Progress, focuses on U.S. competitiveness and innovation. The second, due to Congress in early 2013, offers specific recommendations for developing a 10-year national innovation and competitiveness strategy.

We applaud the commissioning of these reports but believe we cannot afford to wait that long to take action. That's why we convened in the spring of 2011 the group of experts listed on the following page. We spent two days in wide-ranging discussion about the competitive strengths and weaknesses of our nation's scientific endeavors and our economy, before settling upon the topics that constitute the series of reports we publish here. Each paper in the series looks at a different pillar supporting U.S. science and economic competitiveness in a globally competitive economy:

- “Rewiring the Federal Government for Competitiveness”
- “Economic Intelligence”
- “Universities in Innovation Networks”
- “Manufacturers in Innovation Networks”
- “Building a Technically Skilled Workforce”
- “Immigration for Innovation”

The end result, we believe, is a set of recommendations that the Obama administration and Congress can adopt to help the United States retain its economic and innovation leadership and ensure that all Americans have the opportunity to prosper and flourish now and well into the 21st century.

Many of our recommendations are sure to spark deep resistance in Washington, not least our proposal to reform a number of federal agencies so that our government works more effectively and efficiently in the service of greater U.S. economic competitiveness and innovation. This and other proposals are sure to meet resistance on Capitol Hill, where different congressional committees hold sway over different federal agencies and their policy mandates. That's why we open each of our reports with this one overarching recommendation: Congress and President Obama should appoint a special commission to recommend reforms that are packaged together for a single up-or-down vote in Congress. In this way, thorough-going reform is assured.

This new commission may not adopt some of the proposals put forth in this series on science and economic competitiveness. But we look forward to sharing our vision with policymakers as well as the American people. President Obama gets it right when he says, “To win the future, we will have to out-innovate, out-educate, and out-build” our competitor nations. We need to start now.

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# Economic Intelligence

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to Support U.S. Competitiveness

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# Introduction and summary

In discussing about policy options for promoting U.S. economic competitiveness, it's unusual for anyone to consider producing better statistics. Grants, tax credits, regulation, agency reorganizations, yes. But numbers? The federal data system sits like a large black box in a dark shadow. We know a few high-profile stats shed light on how we're doing economically, such as GDP and unemployment, but most everything else is opaque. We don't quite understand what else the system contributes to economic policy or, to be honest, how it works. And so it may not be immediately obvious how the statistical system could better support the nation's economic competitiveness.

Federal economic statistical agencies—particularly the Census Bureau, the Bureau of Labor Statistics, and the Bureau of Economic Analysis—produce the data that guide federal economic policy. For many decades, the primary focus of federal economic policy has been managing the business cycle, that is, preventing recession and inflation. Statistical agencies' explicit priority, therefore, is to provide the macroeconomic data to work the levers of fiscal and monetary policy. Even though U.S. competitiveness has become progressively more vulnerable since the early 1980s, the federal government yet to construct a coherent, well-integrated approach to addressing the global challenges to the nation's economic structure. Consequently, the statistical system hasn't been asked to come up with the numbers that would support intelligent competitiveness policy.

What would those numbers look like? Federal competitiveness policy, if one existed, would systematically identify and address barriers to the efficient functioning of markets. These barriers contribute to what economists call “market failures” that impede the ability of traded industries to successfully respond to market issues and opportunities.<sup>1</sup> Distinct from the broad “top-down” orientation of macroeconomic policy, federal competitiveness policy would involve more “bottom-up” efforts aimed at improving the likelihood that market actors make decisions that enhance competitiveness. These market participants include business, research and education institutions, workers, and students, as well as thou-

sands of public purpose organizations at all geographic levels, such as regional economic and workforce development agencies.

Identifying and addressing market failures requires sufficient data on the structure and competitiveness of key traded industries (number of jobs, productivity, international trade), the building blocks of competitiveness (innovation, entrepreneurship), the basic factors of firm operations (workforce, finance, research and development expenditures), and the impacts of public programs that support firm competitiveness. The private sector does not have the capability to provide the numbers needed to assess and enhance the nation's competitiveness. But the federal government does, at a remarkably low cost. Its current annual cost to track the workings of a \$14 trillion economy is about \$1.7 billion.<sup>2</sup> Additional statistical funds needed to support competitiveness policies would bring the total closer to \$2 billion.

And yet the U.S. statistical system doesn't produce the numbers needed to assess and guide national competitiveness. In the absence of a coherent approach to federal competitiveness policy, statistical agencies continue to give priority to the data needs of macroeconomic policy. The production and analysis of competitiveness-relevant data are further crimped by inadequate congressional funding, lack of understanding of data user needs, lack of coordination and collaboration among agencies, insufficient encouragement to be innovative, and outside analysts' difficulties in gaining access to and working with the data.

Consider:

- The Census Bureau and the Bureau of Labor Statistics cannot provide measures of industry size that are consistent with one another in terms of jobs and earnings.
- BLS says it overestimates growth in manufacturing productivity, a key dimension of competitiveness, because it has difficulty properly accounting for shifts in obtaining manufacturing inputs from domestic to foreign sources.
- The federal government lacks comprehensive, useful measures of innovation activity.
- It also does not have adequate data on entrepreneurs' access to capital.
- The Bureau of Economic Analysis no longer publishes detailed data by state on foreign direct investment. As a result, states, and the president's own SelectUSA initiative, are working in the dark as they try to attract foreign-owned firms to these shores.

- Regional development agencies cannot see business R&D activity by metropolitan area.
- Educational institutions can't find regional jobs data that would let them offer credential programs that match employer demand.

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## Principles

To provide the data needed for competitiveness policy, the federal economic statistical system should adhere to five principles:

- *Be demand-driven:* The federal economic statistical system should be responsive to the decision-making needs of the wide array of actors that influence economic competitiveness, including those in the Federal government, at the state and regional level, in industry, and in the workforce.
- *Be innovative:* Federal statistical agencies should develop innovative cost-efficient approaches to producing data needed for competitiveness policy.
- *Be collaborative:* The White House Interagency Council on Statistical Policy should create an interagency working group on competitiveness statistics to develop and implement a common agenda.
- *Be accessible:* Federal agencies should construct web-based platforms that allow easy access to, and customized building of, data tables. Further, agencies should provide researchers' access to microdata (individual records), while protecting confidentiality, so that they may explore the factors that influence competitiveness.
- *Be sufficiently funded:* If federal agencies are to obtain adequate funding, they must better educate policymakers about the importance of their data products to the economy.

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## Recommendations

Putting these principles into action, the federal government should improve economic statistical programs to better support competitiveness by facilitating

analysis of traded sectors, the intermediate outcomes that determine competitiveness (innovation, entrepreneurship), the underlying factors of competitiveness (R&D expenditures, workforce), and program impacts. The relative cost of these recommendations is minimal compared to their substantial potential long-term impacts on jobs, wages, and government revenues in a \$14 trillion economy.

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## Improving traded sector analysis

**Problem:** Economic analysts lack access to data needed to assess the competitiveness of key traded industries.

**Solutions:**

- In order to make economic data consistent across the government, Congress should pass a law allowing the Census Bureau to share IRS-derived business data with BLS and BEA.
- The Office of Management and Budget should revamp the North American Industrial Classification System, or NAICS, so that analysts can see data on all the establishments involved in a particular industry sector. At present, for example, General Motors headquarters is classified in the “management” industry, not the “automobile manufacturing.”
- The Department of Labor should request, and Congress should approve, funds for BLS to create an input price index to more accurately measure manufacturing productivity.
- The Census Bureau’s Center for Economic Studies should implement the low-cost, high-impact planned expansion of its Longitudinal Business Database, or LBD, by incorporating new datasets from other sources, including those on patents, foreign direct investment, imports and exports, and management and organizational practices.
- The Labor Department’s BLS and Employment and Training Administration should work together to implement a new classification typology, business processes, to all business establishments.

- The Securities and Exchange Commission should implement its contemplated bulk download tool that would allow researchers access to the full set of firm SEC filings.
- Congress should fund BEA to organize economic data by legal organization of firm (i.e., C corporations, S corporations, partnerships, and sole proprietorships), at a cost of about \$1 million or less.
- Congress should provide \$3 million for BEA to improve its collection of foreign direct investment data.
- Congress should take steps that allow BEA to carry out its proposed improvements in trade in services statistics.
- The Department of Labor should request, and Congress should provide, the small amount of funds required by the BLS to build import and export price indices that fully cover traded services.
- Federal statistical agencies should collaboratively explore ways of building a technology balance of payments measure for the U.S.
- The Department of Labor should request, and Congress should provide, the small amount of funds that would allow BLS to create a foreign currency price index.
- Congress should see that BEA has the funds to produce price indices that allow comparison of the costs of doing business across U.S. regions.

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## Improving measures of intermediate outcomes that influence competitiveness

**Problem:** Federal statistical agencies do not provide adequate measures of intermediate outcomes that influence competitiveness, particularly innovation, entrepreneurship, and relationships between organizations.

**Solutions:**

- BEA and the National Science Foundation's National Center for Science and Engineering Statistics should co-lead an interagency working group to coordinate disparate efforts to develop and implement measures of innovation activity.

- The Census Bureau and BLS should take the steps necessary to make their longitudinal business databases—Business Dynamics Statistics and Business Employment Dynamics—more useful to researchers and policymakers in identifying the role of entrepreneurship in national and regional competitiveness.
- The Commerce Department’s Economic Development Administration should take the lead in seeing that the federal economic statistical system enables regional economic development organizations to identify and analyze intra-cluster relationships and determine the implications of these for regional competitiveness.
- Congress should provide the Census Bureau with funds sufficient to conduct the 2012 Economic Census.

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## Improving factor analysis

**Problem:** The federal statistical system does not provide sufficient data regarding the factors that influence competitiveness, including R&D expenditures, workforce, education and training, business finance, and energy.

**Solutions:**

- The National Center for Science and Engineering Statistics should provide a current, complete, detailed picture of R&D expenditures for the nation, states, and regions.
- NCSSES also should expand its analysis of science and engineering workforce and so-called STEM (science, technology, engineering, and math) education to include workers with less than a baccalaureate degree.
- The Department of Labor should request, and Congress should approve, funding that would allow BLS to improve state and regional labor market data, particularly on occupations and labor turnover, and retain the International Labor Comparisons program.
- The Department of Labor should request, and Congress should approve, funding that would allow the Employment and Training Administration to improve the accuracy and detail of the O\*NET occupational classification database and support state-level workforce information programs and decisions tools.

- The Education Department's National Center for Education Statistics should seek, and Congress should approve, continued funding for data programs that track post-secondary educational activity, credential attainment, and workforce outcomes.
- The Census Bureau should implement its planned Local Employment Dynamics program job-to-job flows tool.
- The Secretary of Labor should expand Workforce Information Council membership to include all federal statistical agencies providing workforce and education data and representatives of their state counterparts. Members of the new WIC should collaborate to identify and address labor market information failures.
- The Small Business Administration should convene and lead an interagency working group to identify and address the needs for small business finance data.
- Congress should provide \$1.2 million to BEA to create a satellite account that measures the role of the energy industry in the economy and its impacts on economic activity.

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### Improve evaluation of competitiveness programs

**Problem:** Federal, state, and regional competitiveness-related program agencies lack data on the impacts of their programs.

**Solution:** The Census Bureau should create a program to use the Longitudinal Business Database to assess the impact of program support to individual firms in terms of survival, revenues, jobs, wages, exports, innovation, and other outcomes related to competitiveness.

# The place of federal statistics in competitiveness policy

The federal government has been in the numbers business from its beginning—the U.S. Constitution requires the decennial population census. And the government quickly understood that statistics were important to help frame economic policy. By 1810, it was gathering data on the nation’s agricultural and nascent manufacturing sectors. Federal efforts to get firm information to comprehend the U.S. industrial structure continued throughout the 1800s. Increasingly, trade data were systematically collected. The gathering of labor force data began toward the century’s end. By the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, Congress was creating governmental units dedicated to the collection of data that inform policy, such as the Bureau of Labor Statistics and the Census Bureau.

The Great Depression gave rise to remarkable methodological advances and sophisticated institutional developments with the aim of ensuring that the nation never again would endure the pain of a deep trough in the business cycle. Measures such as gross domestic product and the unemployment rate and methods such as statistical sampling and rudimentary computer analysis came out of a determination that social science would tame economic gyrations. The Employment Act of 1946 framed the institutional structure we have today: The Census Bureau, BLS, and what is now BEA generate the numbers that allow macroeconomists in the White House, the Federal Reserve, and the Treasury Department to shape fiscal and monetary policy.

When properly implemented and coupled with adequate regulation of financial markets, this 65 year-old data-based approach to economic policy has served the United States very well. In particular, it provided the foundation for the nation’s remarkable increase in economic prosperity in the three decades following World War II.

Times change. Unfortunately, the nation’s approach to economic policy—and the statistical policy that undergirds that approach—haven’t kept pace. In the immediate postwar years, the U.S. didn’t need to worry about economic competitiveness and innovation. With a lead that seemed unassailable, and the trauma of the

Depression and postwar inflation fresh, economic policy largely concerned itself with managing the business cycle and sustaining the conditions that would allow business and industries to flourish. Since the early 1980s, though, the U.S. competitiveness position has become progressively more vulnerable. And yet, in contrast to the postwar system for taming the business cycle, the federal government has not built a coherent, well-integrated approach to addressing the challenges of economic structure. Consequently, the statistical system hasn't been asked in a thoughtful, comprehensive way to come up with the numbers that would support intelligent competitiveness policy.

A federal statistical system that facilitates economic competitiveness requires a different, broader orientation than its traditional focus on serving federal customers. Macroeconomic policy is “top-down,” developed and implemented by the president, Congress, and a small number of experts in a handful of federal agencies. It is analogous to Newtonian physics, with the economy seen as a machine, and economic wizards working the levers of fiscal and monetary policy to bring about smooth operation. The explicit priority for the Census Bureau, BLS, BEA, and a few other data agencies is to produce the Principal Federal Economic Indicators of “the current condition and direction of the economy” required by the wizard lever-pullers.<sup>3</sup>

Since the 1960s, the statistical system's second priority is publishing state and local economic numbers to determine the geographic distribution of federal domestic assistance program monies in realms such as workforce, transportation, housing, health care, education, and criminal justice. This also reflects a mechanical social science-based approach to drive funds to the places of greatest need.

The nation's competitiveness, on the other hand, cannot be directed in a “top-down” manner. Competitiveness stems from the day-to-day decisions by:

- Entrepreneurs to start firms,
- Businesses to invest in R&D, bring new products to market, choose operating sites, and train workers,
- Education and training institutions on the nature and size of credential program offerings,
- Research institutions on the focus of study,
- Workers to upgrade their skills, and
- Students to choose a career path.

A federal statistical system that facilitates economic competitiveness requires a different, broader orientation than its traditional focus on serving federal customers.

Competitiveness also depends on the relationships among these various actors within economic regions, individual industries, and the intersection of place and industry in so-called regional clusters. As a result, state governments, regional public purpose organizations in economic, workforce and technology development, and industry and professional associations have important roles to play as well.

A numerous, disparate, uncoordinated set of federal program agencies—such as the Economic Development Administration, the Small Business Administration, the Employment and Training Administration, the International Trade Administration, and the National Science Foundation—seek to stimulate and catalyze market actor behaviors that enhance competitiveness, but not one has sufficient “top down” influence similar to the Federal Reserve for monetary policy or Congress for fiscal policy.

In reality, U.S. economic competitiveness emerges from a highly complex, adaptive economic system that is more analogous to quantum than Newtonian physics, with billions of seen and unseen elements, large uncertainties about how they work together and the exact influences of policy interventions, and major doses of serendipity. Effective competitiveness policies require the government to identify and address market barriers that prevent U.S. actors from effectively responding to global economic forces. Collectively, such policies would include traditional top-down efforts with an innovative series of “bottom up” ones—such as promoting the development of regional cluster organizations—aimed at improving the probabilities that several hundred million market actors and thousands of public purpose organizations make decisions that enhance competitiveness.<sup>4</sup>

Such decisions depend on access to relevant, accurate information, including statistics. Poor information causes misguided decisions that lead to less competitive products and services, workers without the skills needed by businesses, and research investments that bypass market opportunities.

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## The federal role

The federal government has an essential role to play in the production of statistics that lead to better decisions related to competitiveness.

- Only the federal government has the resources, authority, and inclination to produce data that are objective, reliable, and relevant to policy needs, consistent over space and time, and freely accessible to users.

- The entire annual cost of the economic statistical system to inform and guide the workings of a \$14 trillion economy is less than \$2 billion. In contrast, in 2010, the value of grants for employment, education, and training was \$97 billion; federal transportation grants to state and local governments, \$61 billion, and research tax expenditures, \$40 billion.
- Public data are a highly efficient public good, accessible over and over to an infinite number of users.
- Dramatic changes in information technology over the past 15 years allow the federal government to analyze enormous volumes of data at very low cost and provide millions of users with direct, on-line, customized access to these data in formats that are easily manipulated. In the pre-Internet age, it was difficult to readily provide substantial volumes of data to anyone other than a small number of federal customers. Public access was limited to press releases of Principal Federal Economic Indicators and a handful of tables and monthly periodicals and annual volumes available for purchase or at libraries; data analysis was costly and labor-intensive.
- A number of federal statistical agencies are developing innovative tools that allow analysts to look at the dynamics of the economy (such as the paths people take through the education system and job markets) in ways not before possible. Analysis of the dynamics of education and employment, for instance, will allow education and training institutions to better meet business needs for skilled workers.
- The government's options for providing researcher access to large databases of individual records, while fully protecting confidentiality, have greatly expanded. Greater researcher access to microdata means that understanding of the factors that lead to competitiveness can increase.

The federal economic statistical system, then, provides an effective, adaptable, mechanism for addressing information market failures related to competitiveness, at very low cost and with economic and fiscal returns orders of magnitude greater than taxpayer investment. These characteristics are particularly important at this moment of economic difficulty and budget constraints.

## Federal statistical agencies that support competitiveness

### Principal federal statistical agencies that provide data supporting competitiveness include:

- The Census Bureau (Department of Commerce) regularly collects data on individual firms on to build a picture of economic activity by industry. It fields the American Community Survey, which gathers valuable information on worker characteristics such as occupation and education. And it has several longitudinal databases that allow researchers to track firm and workforce activity over time.
- The Bureau of Labor Statistics (Department of Labor) produces numbers on employment and earnings (by industry and occupation) and productivity. BLS and Census co-manage the Current Population Survey, which provides detailed data on workforce characteristics.
- The Bureau of Economic Analysis (Department of Commerce) maintains the national economic accounts, which allows it to produce figures such as gross domestic product, total jobs (including self-employed), and foreign investment in the United States.
- The Federal Reserve publishes figures on industrial capacity and flow of funds.
- The National Center for Science and Engineering Statistics (National Science Foundation) traditionally has published key science and engineering (S&E) indicators and data on R&D and S&E workforce. Congress has asked it to look at innovation data as well.

- The National Center for Education Statistics (Department of Education) produces numbers on postsecondary enrollments and degrees. With NCES funds, states are in the early stages of building longitudinal data systems that will track the workforce outcomes of individual educational programs.
- The Economic Research Service (USDA) publishes information on economic activity by type of geography (rural/urban).

### In addition, a number of other federal agencies provide important competitiveness-related statistical resources.

- The Small Business Administration publishes numbers on the role of small business and entrepreneurship in the economy.
- The Employment and Training Administration (Department of Labor) manages the occupational classification system and funds states to produce occupational projections and labor market analyses.
- The U.S. Patent and Trademark Office (Department of Commerce) provides detailed numbers on patent and trademark activity.
- The Economic Development Administration (Department of Commerce) is building a clusters map of the United States.
- The Securities and Exchange Commission makes available SEC document filings, a rich source of firm-specific information. It is considering building a tool to allow bulk downloading of files. Text analysis of such files could lead to a rich picture of public firm characteristics by industry.

# Principles for producing federal statistics that support competitiveness

This section lays out principles of approach and broad recommendations for producing the federal statistics needed to facilitate U.S. competitiveness. The section following this one will offer recommendations for individual programs.

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## Be demand-driven

The federal economic statistical system should be responsive to the decision-making needs of public- and private-sector actors who influence economic competitiveness.

Federal economic statistical agencies have difficulty responding to the data needs and demands of the broad array of public- and private-sector actors involved in competitiveness activities, particularly those at the state and regional level, in industry, and in the workforce. With an historic focus on serving federal customers, statistical agencies tend to have a culture of supply-driven “production shops.” They need to mirror the characteristics of market-based organizations that successfully respond to the challenges of competitiveness—develop relationships with users, monitor their needs as they evolve over time, and provide products and services that address those needs.

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## Be innovative

Federal statistical agencies should develop innovative cost-efficient approaches to producing competitiveness-related data.

Federal agencies have traditionally relied on business and household surveys to gather data. Rising costs and falling response rates make reliance on such surveys increasingly less desirable. At the same time advances in information technology

now make it easier to analyze existing administrative records. For example, we now can conduct low-cost analysis of enormous volumes of administrative data, such as jobs and wage data in state unemployment insurance systems. We can more easily integrate administrative data from different sources, such as the Census Bureau and U.S. Patent and Trademark Office. And we can more readily use nationwide private databases, such as Dun & Bradstreet company information or electronic job listings, for public policy purposes.

Statistical agencies should continue to demonstrate their use of advanced technologies and methods, such as building longitudinal databases. Further, they should make more active use of administrative data, including those from non-federal sources. As suggested by Alan Krueger, recently appointed as chair of the White House Council of Economic Advisers, statistical agencies should consider certifying non-federal data sources that they believe are reliable.<sup>5</sup>

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### Be collaborative

The White House Interagency Council on Statistical Policy should create an interagency working group on competitiveness statistics to develop and implement a common agenda.

In the decentralized federal statistical system, a number of agencies produce statistics that are valuable to competitiveness. (See box, page 12). However, we lack a common understanding of what federal data are needed for competitiveness policy, what data are available, and what should be done to fill the gaps. Moreover, it is difficult to compare and integrate data across agencies due to differences in definitions, classification, coverage, and units of geographic analysis. To assess competitiveness, data and indicators also should be comparable to those from other nations.

Ex officio members of the interagency working group on competitiveness data should include federal agencies that design and implement competitiveness policies. Among these agencies are the National Economic Council, the Federal Reserve, the International Trade Administration, the Economic Development Administration, and the Employment and Training Administration.

Statistical agencies should continue to demonstrate their use of advanced technologies and methods, such as building longitudinal databases.

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## Be accessible

Federal statistical agencies should construct web-based platforms that give users ready access to data and allow them to build customized tables. Further, agencies should provide researchers with access to microdata (individual records) so that they may explore the factors that influence competitiveness.

In light of the complexities of competitiveness, data users involved in policy, business, and research require the capacity to easily custom-build data tables via the web rather than rely on static, agency-produced ones. Further, given the lack of knowledge about the dynamics of competitiveness, researchers need the ability to analyze microdata, with confidentiality protections. However, agencies are quite uneven in providing these capacities.

A variety of tools are available for constructing microdata bases that protect confidentiality, such as public-use microdata files, microdata with “noise,” and “synthetic” microdata.<sup>6</sup>

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## Be sufficiently funded

Federal agencies must better educate policymakers about the economic importance of their data products, and the very high return on taxpayer investment, if they hope to be adequately funded.

Meeting user needs requires sufficient funding. As noted earlier, the annual cost of the entire economic statistical system is quite small, both in relative terms (under \$2 billion) and in light of the substantial value it provides (supporting public and private decisions across a \$14 trillion economy). Despite this, senior executive and legislative branch budget decision-makers tend not to accord economic statistical programs the funding priority they deserve. This is due largely to a lack of awareness regarding the system’s low cost and high benefits.

Agencies should describe the substantial return on taxpayer investment in statistics, in part by gathering such information through federal performance measurement activities.

# Recommendations: a statistical reform agenda to bolster U.S. competitiveness

The recommendations in this section are organized around four categories:

- The first category includes efforts to improve competitive analysis of U.S. traded industries, the ones that compete with establishments located outside the U.S.
- The second category includes efforts to better measure the intermediate outcomes that determine competitiveness, including the dimensions of innovation, entrepreneurship, and relationships between organizations.
- The third category includes efforts to better assess the factors that provide the foundation for competitiveness, including workforce, R&D, financial capital, physical infrastructure, and energy.
- The fourth category covers efforts to evaluate the impacts of public program investments on competitiveness.

Where possible, costs of specific recommendations are identified. The author's understanding is that every recommendation for a new budget initiative would cost under \$6 million (and many well under that), with two exceptions. In light of the federal budget situation, it is important to note that the additional cost of these recommendations to the federal budget, about \$200 million-\$250 million in total, is small compared to their substantial potential long-term impacts on jobs, wages, and government revenues in a \$14 trillion economy.

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## Traded sector analysis

### Problem

*Economic analysts lack access to data needed to describe and assess the competitiveness of key traded industries*

Federal statistical agencies today do not provide the data that allow economic analysts to accurately identify and assess those industries that are fully or partially traded, that is, compete with foreign-based establishments.<sup>7</sup> Further, statistical agencies do not offer adequate data on the geography of the U.S. traded sector, particularly traded industry clusters.

### Solutions

*NAICS industry classification*

The identification and assessment of traded industries is done on the basis of the classification of individual establishments according to the North American Industry Classification System (NAICS).<sup>8</sup> The federal data system needs to provide a clear NAICS-based picture of the size and characteristics of key traded industries.

*Congress should pass a law allowing the Census Bureau to share IRS-derived business data with other economic statistical agencies.*

The Census Bureau and the Bureau of Labor Statistics maintain completely independent business lists that differ substantially by industry classification, jobs per establishment, payroll per establishment, and even if a firm is single- or multi-establishment.<sup>9</sup> As a result, it is difficult to obtain a clear, consistent picture of U.S. industrial structure. This situation arises because under current law, the Census Bureau is not allowed to show its establishment-specific data to BLS because those data are in part drawn from IRS sources.

The Bush and Obama administrations have worked diligently with Congress to craft, and gain support for, a law that allows the Census Bureau to share IRS-based data with other federal economic statistical agencies. Passage of a “data synchronization” law is essential for competitiveness policy. In addition to making possible one consistent picture of U.S. economic structure, the proposed law would let the Bureau of Economic Analysis produce quarterly GDP by industry (currently annual only) and better data on innovation and self-employment. A new law also

Congress should pass a law allowing the Census Bureau to share IRS-derived business data with other economic statistical agencies.

would enable BLS to improve its producer price indices. There is no cost to implementing this recommendation.

*OMB should revamp NAICS so that analysts can see data on all the establishments in a particular industry sector.*

Unlike its predecessor Standard Industrial Classification (SIC) system, NAICS classifies each establishment by its function, not the industry it serves. So, for instance, the headquarters of an automaker is classified as being part of the “Management of Companies and Enterprises” industry, not manufacturing. Similarly, an automaker’s warehouse is classified under “Warehousing and Storage.” It’s therefore difficult to obtain a clear count of the number of jobs actually in each industry. OMB should consider reverting to a classification scheme that would allow analysts to count all jobs and wages tied to industries, distinct from functions. (see box)

## How many manufacturing-related jobs does Detroit have?

The Bureau of Economic Analysis says that in 2000 the Detroit metropolitan area had 467,000 manufacturing jobs, according to the SIC system, and that in 2001 the area had 371,000 manufacturing jobs, according to NAICS, a decrease of 97,000. In 2001, the region also had 44,000 jobs in the management of companies and enterprises, a category that did not exist in 2000. Other SIC manufacturing jobs shifted to NAICS categories such as transportation and warehousing.

In contrast, the Bureau of Labor Statistics shows a NAICS-consistent change in manufacturing jobs of 392,000 to 359,000 between 2000 and 2001, a 32,000 job decline (BLS converted SIC data to NAICS back to 1990). BEA data include the self-employed, which tends to make its numbers a bit higher. That BEA’s job decline number is three times that for BLS can be attributed to the classification change.

Under NAICS, then, it is now not possible to know how many jobs in the Detroit region are actually tied to the manufacturing industry.

### *Productivity*

*The Department of Labor should request and, Congress should approve, the small amount of money needed by BLS to more accurately measure manufacturing productivity.*

Accurate productivity and value-added measures are essential to competitiveness policy. However, economists have discovered, and BLS concurs, that the agency is overestimating manufacturing productivity growth by 10 percent to 20 percent

because it incorrectly attributes to greater productivity the drops in input prices that occur when a manufacturer shifts from a domestic to foreign supply source.<sup>10</sup> This appears to be a particular problem for the U.S. computer industry, according to the Information Technology and Innovation Foundation.<sup>11</sup> BLS proposes to correct it by creating an input price index that differentiates between U.S. and foreign suppliers. (see box)

## Mismeasuring industrial productivity

Michael Mandel and Susan Houseman, in their recent McKinsey and Company report titled “Not all productivity gains are the same. Here’s why,” provide an illustration of our mismeasurement of industrial productivity and its consequences. “Suppose a U.S. automaker imports one million parts from a Japan-based supplier at \$10 per part, for a total import bill of \$10 million. Consider two scenarios:

**Scenario 1:** The U.S. automaker improves its production process in its domestic factories, so it only needs half as many components. The import bill goes down to \$5 million.

**Scenario 2:** The U.S. automaker switches to a China-based supplier that only charges \$5 per part. The import bill goes down to \$5 million.

Surprisingly, these two scenarios are indistinguishable in the U.S. economic statistics. In both scenarios, the import bill goes down to \$5 million. The value added of the U.S. auto company goes up (sales minus the cost of materials), as does its profitability (sales minus cost of labor and materials) and measured productivity (value added per worker).

In order to tell the two scenarios apart, Washington statisticians would have to be looking at a set of figures that told them that a part imported from China is priced at half as much as the equivalent part imported from Japan. But no such comparative data exist—the Bureau of Labor Statistics collects data on price changes of Chinese imports and Japanese imports, but does not compare the two levels.<sup>12</sup>

### *Firm and establishment information*

Existing datasets on firm characteristics are inadequate for competitiveness policy. Certain data are not now collected and existing datasets are insufficiently integrated.

*The Census Bureau’s Center for Economic Studies should implement its planned low-cost, high-impact expansion of the Longitudinal Business Database (LBD) that incorporates new datasets from other sources, including those on patents, foreign direct investment, imports and exports, and management and organizational practices.*

This enriched database would facilitate more sophisticated analyses of the factors behind competitiveness. Costs for integrating existing data into the LBD are minimal.

*BLS and the Employment and Training Administration (ETA) should work together to apply a new classification typology of business processes to individual establishments.*

At present, BLS uses a business process typology to classify establishments involved in mass layoffs. There are eight types of processes, such as strategic management, operations, and product development.<sup>13</sup> The capacity to describe U.S. traded industry activity by processes would be a large boon to competitiveness analysis. With the cooperation of ETA, this classification could take place simultaneously with industry classification, that is, when an establishment joins the state unemployment insurance (UI) system. After startup, the costs of implementing this new system are minimal.

*The Securities and Exchange Commission should implement its contemplated bulk download tool that would allow researchers access to the full set of firm SEC filings.*

Text analyses of these public data would greatly enrich understanding of firm and establishment characteristics and their impacts on competitiveness. This tool has the potential to be self-funded through user fees.<sup>14</sup>

*Congress should fund BEA to organize economic data by legal organization of firm, such as C corporations, S corporations, partnerships, and sole proprietorships.*

Such data would be available by industry. This would be a low-cost way—about \$1 million or less—to add a new dimension to understanding of the structure of U.S. traded industries. While BEA proposed this work in its FY2012 budget request, Congress did not fund the idea.<sup>15</sup>

*Congress should appropriate \$3 million to BEA to improve its collection of foreign direct investment data.*

For many years, BEA collected state-level detail on foreign direct investment, particularly concerning manufacturing, gross property plant and equipment, and commercial property. However, this detail was eliminated under 2008 budget cuts. As a result, according to the State International Development Organizations, individual states are hampered in their ability to attract foreign firms.<sup>16</sup> Further, the Commerce Department's new SelectUSA Initiative, a cooperative effort with state governments to attract foreign employers, will be hobbled without adequate state-level data.<sup>17</sup>

BEA should get funding to restore state-level detail, particularly for manufacturing, and distinguish between foreign direct investment involving new construction (“greenfield”) and that involving acquisition.<sup>18</sup>

### *International trade*

While the quality and detail of U.S. trade numbers have improved in recent years, insufficient information exists regarding trade in services, a substantial and growing dimension of competitiveness.

*Congress should enable BEA to improve statistics on trade in services.*

As mandated by the American Recovery and Reinvestment Act, the Commerce Department in January 2010 reported to Congress on the state of statistics on U.S. trade in services.<sup>19</sup> The report proposed a series of steps that BEA would take to address deficiencies these statistics. Among the improvements proposed are:

- Adding new information on insurance, financial services, computer software, and manufacturing services, in line with international trade data standards
- Expanding existing surveys to collect data on U.S. firm operating characteristics and purchases of services from U.S. and foreign suppliers
- Incorporating business characteristics from existing Census surveys
- Increasing survey coverage of small firms
- Ensuring that the BEA sampling frame is consistent with the Census Bureau’s Economic Census
- Using existing data to determine the origins of imported services, for example, intrafirm trades and outsourcing by U.S.-based firms

According to the Commerce Department report, full implementation of these recommendations requires “a small investment of resources” and Congressional passage of a “data synchronization” law allowing the Census Bureau to share data with IRS components with BEA.

Congress should  
enable BEA  
to improve  
statistics on trade  
in services.

*The Department of Labor should request, Congress should provide, the small amount of funds required by the BLS to build import and export price indices that fully cover traded services.*

The above-referenced Commerce Department report indicates that “very limited information is available on price trends of U.S. exports and imports of services,” making competitiveness analyses difficult. The BLS International Price Program (IPP) now only covers air passenger fares and air freight charges, amounting to 11 percent of U.S. imports of private services and 7 percent of U.S. exports of private services.

Because of fiscal year 2008 budget cuts, BLS was forced to drop coverage of prices of export travel and tourism, crude oil, ocean liner freight, and postsecondary education (foreign students coming to the U.S.). Prior to these cuts, IPP still covered only 20 percent of imported services and 35 percent of exported services.

A full set of trade in services price indices would allow the construction of “real” trade flows, as well as price comparisons of similar foreign and domestic service industries. The federal government would gain a true picture of the nation’s competitiveness, in general and in specific industries. IPP should begin by restoring discontinued data series and adding the two major traded sectors of healthcare and business services.

*Federal statistical agencies should collaboratively explore ways of building a technology balance of payments measure for the U.S.*

The Organization for Economic Cooperation and Development, or OECD, has estimated the so-called TBP, or technology balance of payments, for each of its member nations, including the United States. TBP is defined as “money paid or received for the acquisition or use of patents, licenses, trademarks, designs, inventions, know-how and closely related technical services” and is a useful indicator of national competitiveness.<sup>20</sup>

The OECD TBP indicator for the United States shows a dramatic increase in technology imports and exports between 1995 and 2009 (from \$6.9 billion to \$55.8 billion and \$30.3 billion to \$89.1 billion, respectively). The TBP indicator is developed by an external organization from U.S. data sources created for different purposes. The U.S. TBP indicator could be significantly improved for policy use if the federal government devoted a few million dollars to improving measures of trade in technology, an important component of trade in services.

*The Department of Labor should request, and Congress should provide, the small amount of funding that would allow BLS to create a foreign currency price index.*

The United States today can't identify price trends in U.S. exports and imports from the perspective of foreign buyers and sellers. Correcting this problem would allow policymakers to identify shifts in U.S. competitiveness in response to fluctuations in the value of the dollar.

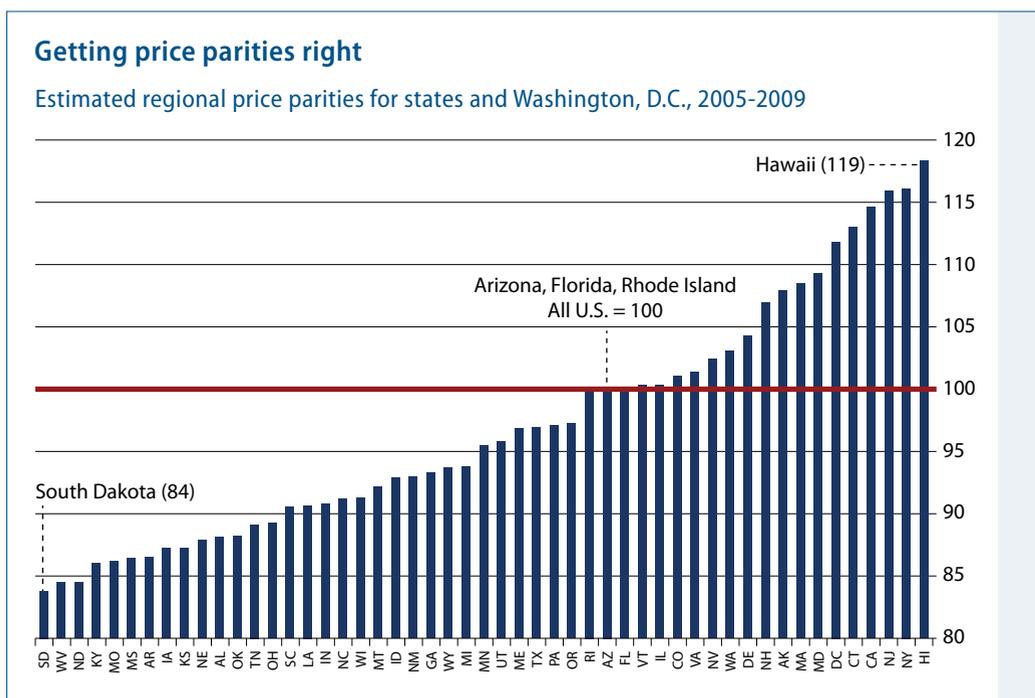
### *U.S. price indices by place*

*Congress should see that BEA has funding to produce price indices that allow comparison of the costs of doing business across U.S. regions.*

The federal government does not produce data that allow cost-of-doing-business comparisons, a key aspect of competitiveness. BLS consumer price indices look at changes over time, not differences over space. The Council for Community and Economic Research does publish the ACCRA Cost of Living Index, or COLI.<sup>21</sup> However, COLI is limited in the number of items and regions covered, and narrowly focuses on “expenditure patterns for midmanagement households.”

For several years, BEA has been readying the publication of Regional Price Parities (RPPs) to fill this data gap.<sup>22</sup> RPPs will offer inter-area comparisons of the price of various goods and services, such as housing, education, medical, and food. If fully implemented, RPPs will allow greater understanding of the competitiveness

of individual U.S. states, metro areas, and counties. Further, they will enable real (that is, price-adjusted) estimates of state, metro, and county economic performance, such as per capita income. (see chart)



Source: Aten, Figueroa, and Martin, 2011.

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## Intermediate outcomes that influence competitiveness

### Problem

Federal statistical agencies do not provide adequate measures of key intermediate outcomes that determine competitiveness—particularly innovation, entrepreneurship, and productive relationships between organizations.

### Solutions

#### *Innovation*

*BEA and the National Science Foundation's National Center for Science and Engineering Statistics should co-lead an interagency working group to coordinate disparate efforts to develop and implement measures of innovation activity.*

The federal government today lacks adequate measures of innovation, particularly the extent, rates, and economic impacts of product and process innovations. Historically, the default measure has been patents, but that's just one—and sometimes a misleading—manifestation of innovation.

Happily, a foundation for consensus around new innovation measures is being developed. In 2008, the Commerce Department released a report recommending new metrics of innovation, including BEA analysis of the contribution of innovation to economic growth and productivity.<sup>23</sup> BEA is in the midst of implementing key recommendations.<sup>24</sup> In 2009, the National Center for Science and Engineering Statistics and the Census Bureau fielded a new annual Business R&D and Innovation Survey that asks questions about intellectual property, R&D agreements, and new product lines.<sup>25</sup>

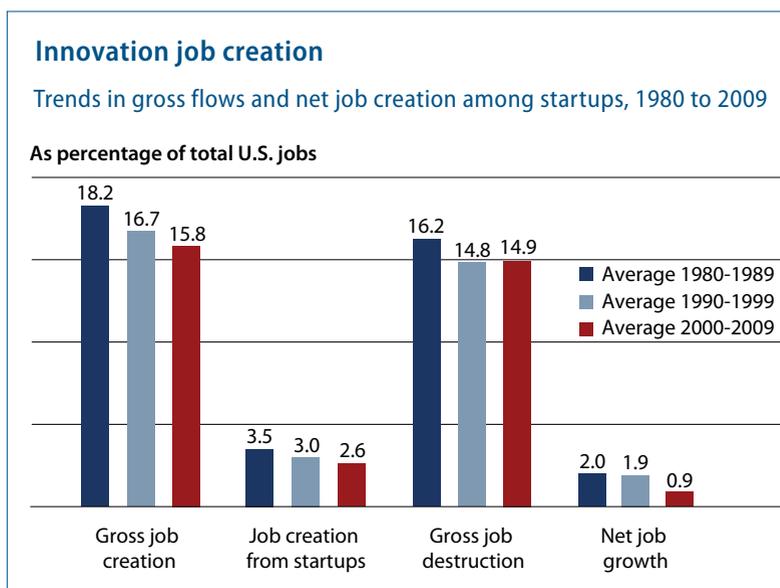
As previously noted, the Census Bureau is augmenting its Longitudinal Business Database with patent data. And the USDA Economic Research Service is planning a new Rural Establishment Innovation Survey to understand establishment-level innovation processes, including patterns of knowledge transfer.<sup>26</sup> Regional researchers are looking at private databases such as ThomasNet.com to identify new product introductions, which would allow ongoing replication of a landmark Small Business Administration-funded analysis of innovations introduced to market in 1982.<sup>27</sup>

However, emerging federal efforts to measure innovation are not well coordinated and have yet to meet policymakers' needs. Consequently, BEA, by virtue of its central role in the 2008 Commerce report recommendations, and NCSSES, by virtue of its congressional mandate to serve as the clearinghouse for science, engineering, and technology data, should co-lead an interagency effort to coordinate innovation data collection and measurement and the definition of innovation indicators.<sup>28</sup> Federal units that need innovation data for policy purposes, such as the White House Office of Science and Technology Policy and the Commerce Department's Office of Innovation and Entrepreneurship, should be represented in this effort.

### Entrepreneurship

*The Census Bureau and BLS should take the steps necessary to make their longitudinal business databases more useful to researchers and policymakers in identifying the role of entrepreneurship in national and regional competitiveness.*

An article of faith for decades has been that small businesses create the bulk of America's jobs. Researchers' ability to fully test this belief was constrained by the lack of easily-used federal longitudinal firm databases. In recent years, this constraint has been addressed by the development of the Census Bureau's Business Dynamics Statistics program (an offshoot of the Longitudinal Business Database) and BLS' Business Employment Dynamics program.<sup>29</sup> Recent Census Bureau BDS research, supported in part by the Kauffman Foundation, indicates that reality is a variant on the long-held belief: New businesses, most of which are indeed small, are the primary job generators.<sup>30</sup> Using BDS and BED, a recent Kauffman Foundation study found a disconcerting decline in the number of jobs created by business startups over the last several decades.<sup>31</sup> Additional research is being undertaken to understand why this is so. (see chart)



Source: Business Dynamics Statistics Briefing: Historically Large Decline in Job Creation from Startup and Existing Firms in the 2008-2009 Recession, Kauffman Foundation, March 2011, [http://www.ces.census.gov/docs/bds/plugin-BDS%20March%202011%20single\\_0322\\_FINAL.pdf](http://www.ces.census.gov/docs/bds/plugin-BDS%20March%202011%20single_0322_FINAL.pdf).

These works have researchers recognizing that BDS and BED provide valuable platforms to better understand the role and dynamics of entrepreneurship as it

relates to competitiveness. Moreover, national and regional economic and business development organizations are beginning to appreciate that BDS and BED data can help shape more effective policies and programs.

To realize these platforms' potential, the following steps should be taken:

- The Kauffman Foundation found that Census Bureau and BLS databases generated quite different new business job creation numbers (though they trended in the same direction). Consequently, the Census Bureau and BLS should collaborate with each other and with academic researchers to determine the reasons that their new business job creation numbers significantly differ. Passage of data synchronization legislation, discussed earlier, would facilitate this process. Absent such legislation, the inability of the Census Bureau to share its IRS-derived data with BLS complicates researchers' ability to determine the nature of entrepreneurship's role in competitiveness.
- The BDS and BED programs should provide data by metro areas and counties. Neither the BDS nor the BED today provides data tables below the state level.
- The Census Bureau should continue its efforts to improve the ability of researchers to access to microdata through its Research Data Center program. At present, RDC program procedures for allowing researchers to gain access to LBD/BDS microdata can be burdensome.
- To improve measurement of new business outcomes, the Census Bureau should implement its plans to integrate external datasets (such as innovation and exports) into the LBD and, by extension, the BDS.
- The BDS and BED programs should create firm-based datasets as robust as their establishment-based ones. (One firm can have multiple establishments.) At present, analysis by firm is more difficult than analysis by establishment, muddying understanding of entrepreneurial dynamics. Much of the new data being added to the LBD will be at the firm level. Several years ago, in a preliminary proposal for an Enterprise Statistics Program, the Census Bureau contemplated providing a more robust set of firm-level data through the LBD; the proposal was a good one and should be reconsidered.

The sum cost of these various steps is relatively small.

### *Intracluster relationships*

*The Economic Development Administration should take the lead in seeing that the federal economic statistical system allows regional economic development organizations to identify and analyze intra-cluster relationships and determine the implications of these for regional competitiveness.*

Federal, state, and regional economic policymakers today lack sufficient information on the nature and role of interorganizational relationships in driving the competitiveness of regional clusters. Regional clusters are geographic concentrations of interconnected firms and supporting organizations. If national economic competitiveness is largely a function of regional economic competitiveness, regional competitiveness in turn depends largely on the competitiveness of individual clusters. Thick interorganizational relationships—transactional (e.g., buyer-supplier) and interpersonal (sharing of ideas)—are key to cluster competitiveness.<sup>32</sup> However, the federal statistical system at present is not organized to supply cluster-specific data.

Specifically, EDA should:

- Engage BEA to analyze Economic Census data to identify generic buyer-supplier templates for major cluster types (e.g., biotechnology) and apply the results to its Regional Input-Output Modeling System, or RIMS II, allowing the assessment of the role and impacts of individual clusters<sup>33</sup>
- Provide technical assistance so that regional development organizations can utilize private input-output models such as Regional Economic Models, Inc.'s REMI model and IMPLAN for cluster analysis<sup>34</sup>
- Ask NCSSES to publish spatial information on university-industry partnerships
- Actively explore the innovative use of commercial datasets to identify regional relationships, such as using Capital IQ database to see connections between financial backers and startup enterprises<sup>35</sup>

*Congress should provide the Census Bureau with funds sufficient to conduct the 2012 Economic Census.*

The Census Bureau's Economic Census, carried out for years ending in the numbers 2 and 7, is essential to most dimensions of economic policy, including competitive-

Congress should provide the Census Bureau with funds sufficient to conduct the 2012 Economic Census.

ness.<sup>36</sup> For example, the Economic Census is relied on by BEA to measure GDP, by BLS to measure productivity, by economists to forecast national and state economic growth, by industry associations to assess sector competitiveness, by firms to compare their metrics to their industry as a whole, and by economic development agencies to estimate the impacts of proposed projects.<sup>37</sup> As suggested above, the Economic Census would be instrumental in identifying regional intra-cluster relationships. Further, the Economic Census Survey of Business Owners is the single most important federal source of entrepreneurship data.

However, FY2012 appropriations approved by Congress significantly cut the Census Bureau's periodic censuses budget request. As a consequence, the Census Bureau is scaling back this year's spending on the 2012 Economic Census by 10 percent (\$12 million). The Census Bureau says it will do the best it can to produce savings through greater efficiencies and maintain data reliability.

To ensure the effectiveness of competitiveness and macroeconomic policies that will rely on the 2012 Economic Census, it is highly important that Congress fully fund President Obama's forthcoming FY2013 budget request for that data collection effort.<sup>38</sup>

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## Factor analysis

### Problem

The federal statistical system does not provide sufficient data regarding the factors that lead to competitiveness, including R&D expenditures, workforce, education and training, business finance, and energy.

### Solutions

#### *R&D expenditures*

*The National Center for Science and Engineering Statistics should provide a current, complete, detailed picture of R&D expenditures for the nation, states, and regions.*

*In particular, NCSES should:*

- Publish business R&D data in a timely manner. The latest detailed data are from 2007.

- Provide data tables of business and academic R&D for metropolitan areas, data valuable for understanding regional competitiveness. At present, R&D data are presented only at the state level.
- Institute an annual survey of R&D carried out by nonprofits other than universities (which are primarily hospitals), last conducted for 1997. Doing so also would allow NCSES to fill in R&D data gaps at the state and metro level. This is particularly important in Boston, with its concentration of hospital R&D activity.
- Improve its web tools for data access to allow users to build customized tables.<sup>39</sup>

The cost of carrying out these recommendations is relatively small.

### *Workforce and education*

Global economic competitiveness depends on business access to a skilled, creative workforce. Labor market actors—businesses, educators, workers, and students—make choices about jobs, careers, and education in response to market signals and information.

Workforce development organizations need good information to make informed investment decisions. Unfortunately, federal workforce and education data are insufficient to meet decision-maker needs. The statistical system is pursuing a number of IT-driven efforts that, if fully implemented, will dramatically expand the ability to understand the working of labor markets.

*The Department of Labor should request, and Congress should approve, funding that would allow BLS to:*

- Retain the International Labor Comparisons program, slated for closure. This \$2 million program allows cross-national comparisons for labor force, employment, unemployment, hourly compensation costs, productivity and unit labor costs, GDP per capita and per hour, and consumer prices.<sup>40</sup>
- Double support for state labor market information agencies, to \$170 million. BLS funding to state labor market information agencies to provide jobs data is insufficient—it has been flat at \$85 million for a full decade. The increase would pay for itself many times over in terms of improved labor market functioning and resulting drops in federal expenditures for income security programs, including unemployment insurance.

- Expand the Occupational Employment Statistics program sample (at an additional cost of \$5 million) so that it can produce annual, rather than three-year average, estimates of employment by occupation for the nation, states, and metropolitan areas.<sup>41</sup>
- Expand the sample of the Job Openings and Labor Turnover Survey, known as JOLTS, so that data can be published by state. The preferred approach is a relatively small congressional appropriation; alternatively, BLS could offer each state the option of paying BLS to increase the state's JOLTS sample size so that state-specific data could be published.<sup>42</sup>
- Work with the state labor market information agencies to evaluate and reorganize the 62-year-old federal-state cooperative statistics system in light of advances in IT and increased demand for competitiveness-related labor force data.<sup>43</sup>

*The Department of Labor should request, and Congress should approve, funding that would allow the department's Employment and Training Administration to:*

- Improve the relevance and detail of the O\*NET occupational classification database. ETA today lacks the funding necessary to maintain an up-to-date O\*NET and related decision tools.<sup>44</sup> These are needed to guide postsecondary institutions' decisions about program offerings and workers' decisions about careers and training, particularly for emerging knowledge-based occupations. Additional annual costs would be a few million dollars.
- Triple support for the Workforce Information Grant Program for state LMI agencies to \$100 million.<sup>45</sup> This increase would pay for itself many times over in improved labor market functioning and resulting drops in federal expenditures for income security programs, including unemployment insurance. As with BLS, ETA's funding to states has been flat over the past decade, stuck at about \$35 million annually.
- Encourage state labor market information agencies to produce data on regional occupational and skills intensity, based on Occupation Employment Statistics and O\*NET.<sup>46</sup>
- Continue to support the development of skills-based projections by states, based on O\*NET.<sup>47</sup> Reliable projections of skill needs would allow education and training programs to adjust their offerings accordingly.

- Continue to support advances in the use of transactional or “real-time” labor market information by states to identify changes in occupational demand. Real-time labor market information involves the collection and analysis of text from electronic job boards.<sup>48</sup>
- Continue to support future iterations of the Workforce Data Quality Initiative that provides grants to state labor market information agencies to link workforce data to state education agencies’ Statewide Longitudinal Data Systems. This linkage will allow the identification of the employment and earnings outcomes of various educational paths and programs, enabling educators to adjust education offerings to better meet market demand.<sup>49</sup>
- See that state workforce training grantees are required to use ETA-funded workforce data in making grant investment decisions, which is not the case now.

*The National Center for Education Statistics should:*

- Seek, and Congress should approve, continued funding of the Statewide Longitudinal Data Systems (SLDS) grant program.<sup>50</sup> When fully implemented, SLDS will allow policymakers, educators, and researchers to understand the workforce outcomes, like employment and wages, of various types of education programs. As a result, educational offerings can be better shaped to meet employer demands.
- Expand the Integrated Postsecondary Education Data System to include nontraditional students.<sup>51</sup> Graduation rates now only cover first-time, full-time students.<sup>52</sup>
- Continue to pursue options for adding questions to NCES and Census Bureau surveys on the attainment of postsecondary non-degree credentials, specifically community college certificates and industry certifications. Such credentials can enhance worker employability and wages.<sup>53</sup>

*The National Center for Science and Engineering Statistics should expand its analysis of science and engineering workforce and STEM education to include workers with less than a baccalaureate degree.*

Historically, NCSES has focused on the publication of workforce and education data only at the baccalaureate level and above. As a result, analysts do not have a

The National Center for Science and Engineering Statistics should expand its analysis of science and engineering workforce and STEM education to include workers with less than a baccalaureate degree.

full understanding of the science and engineering labor market. The new NCSES congressional mandate requires the agency to “collect, acquire, analyze, report, and disseminate . . . statistical data on . . . the science and engineering workforce . . . (and) the condition and progress of United States STEM education.”<sup>54</sup>

*The Census Bureau should implement its planned Local Employment Dynamics program job-to-job flows tool.*

This tool would allow researchers to track job paths of various groups of workers (such as laid-off manufacturing workers) at geographic levels as small as counties while fully protecting confidentiality.<sup>55</sup> The tool will be a large boost to regional labor market functioning in its own right; it has the potential to be used in SLDS to track workforce outcomes across state lines.

*The Secretary of Labor should expand Workforce Information Council membership to include all federal statistical agencies providing workforce and education data, and representatives of their state counterparts. Members of the new WIC should collaborate to identify and address labor market information failures.*

The current membership of the Workforce Information Council, created by the Secretary of Labor to identify and respond to workforce data needs as mandated by the Workforce Investment Act of 1998, is far too narrow to fulfill its mission. At present, membership includes only BLS and representatives from state labor market information agencies. Essentially, the WIC is focused on the BLS-state cooperative statistics program to the exclusion of other workforce data efforts, such as those conducted by the Census Bureau, NCES, ETA, NCSES, and state education agencies.

To facilitate coordination among federal agencies involved in labor market statistics, the Secretary of Labor should expand membership in the Workforce Information Council to include BLS, ETA, NCES, Census, NCSES, state labor market information agencies, and state education agencies.<sup>56</sup>

### *Financial capital*

*The Small Business Administration should lead an interagency working group to identify and address the needs for small business finance data.*

Such data are needed to identify and provide policy responses to unmet financing needs. At present, there is a significant gap in such data, particularly since the demise of the Federal Reserve’s Survey of Small Business Finance.<sup>57</sup> There also is

an absence of coordination among federal agencies with a role in collecting small business financing data, including the Small Business Administration, the Census Bureau, the Consumer Finance Protection Bureau, the Small Business Lending Fund in the Treasury Department, and the various federal financial institution regulatory agencies such as the Federal Reserve.

### Energy

*Congress should fund BEA to create an energy satellite account.*

Energy supply and costs are an important determinant of competitiveness. In its FY2012 budget request, BEA proposed a \$1.2 million initiative to provide information on energy supply and consumption dynamics, energy prices, and energy product impacts on GDP, consumer spending, and industry performance. The initiative was not funded and deserves congressional consideration in FY2013.<sup>58</sup>

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## Competitiveness program evaluation

### Problem

Federal, state, and regional competitiveness-related program agencies lack data on the impacts of their programs.

OMB Director Jacob Lew recently advised agencies that “to drive long-term productivity increases, your 2013 budget and management plans should explain how your agency will acquire, analyze, evaluate, and use data to improve policy and operational decisions, and how you will reallocate and strengthen your analytic and evaluation capacity to set outcome-focused priorities, identify the most effective and cost-effective practices and programs, and speed their adoption.”<sup>59</sup> For many federal programs that support competitiveness, however, such evaluative data are difficult and expensive to come by. Access to such data tends to be even more difficult for competitiveness programs run by state and regional organizations.

### Solution

The Census Bureau should create a program to use the Longitudinal Business Database to assess the impacts of federal, state, and regional agency support to individual firms on firm survival, revenues, jobs, wages, exports, innovation, and other competitiveness-related outcomes. The Census Bureau would use the LBD

to track these outcomes among participants in economic and business development programs and compare them to those for control groups of establishments. This recommendation, based on a proposal by E.J. Reedy of the Kauffman Foundation, would be funded by user fees.<sup>60</sup>

# Conclusion

An effective federal competitive policy requires statistical agencies to produce the current, reliable, detailed data needed by federal, state, and local policy and program agencies and market actors to make intelligent decisions regarding the strategic investment of scarce resources. This in turn will require federal statistical efforts to be demand-driven, innovative, collaborative, accessible, and sufficiently funded. At a time of economic and fiscal constraints, relatively small new investments in competitiveness-relevant data can generate positive impacts on jobs, wages, and government revenues that are many orders of magnitude greater than the costs.

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## About the author

**Andrew D. Reamer** is Research Professor at the George Washington University Institute of Public Policy. He focuses on policies that promote U.S. competitiveness. Areas of interest include innovation, regional economic and workforce development, and economic statistics.

Dr. Reamer is a member and former chair of the Bureau of Labor Statistics Data User Advisory Committee; a member of the Bureau of Economic Analysis Advisory Committee; past president of the Association of Public Data Users; and a board member of the Council for Community and Economic Research. He also is a Nonresident Senior Fellow at the Brookings Institution.

Before joining GWIPP, Dr. Reamer was a Fellow at the Brookings Institution's Metropolitan Policy Program and Deputy Director of its Urban Markets Initiative. He founded the Federal Data Project, which sought to improve the availability and accessibility of federal socioeconomic data for states, metropolitan areas, and cities. He also co-authored the policy brief that served as the basis for the Regional Innovation Program authorized by Congress in 2010.

Dr. Reamer co-founded Mt. Auburn Associates in 1984 and founded Andrew Reamer & Associates in 1995, both regional economic development and public policy consulting firms. He received a Ph.D. in Economic Development and Public Policy and a Master of City Planning from the Massachusetts Institute of Technology.

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## Endnotes

- 1 U.S. traded industries comprise U.S.-based establishments that compete with establishments located outside the United States. The competition may be in U.S. markets or overseas. Location, not ownership, is the defining factor. A foreign-owned establishment based in the United States is considered part of the U.S. traded sector.
- 2 This estimate is based on the current annual budgets for the Bureau of Labor Statistics (approximately \$610 million), Census Bureau economic statistics (approximately \$550 million, including the American Community Survey), the National Agricultural Statistics Service (approximately \$120 million), the National Center for Education Statistics (\$110 million), the Bureau of Economic Analysis (approximately \$90 million), USDA Economic Research Service (approximately \$80 million), Employment and Training Administration workforce information (approximately \$50 million), the IRS Statistics of Income Division (approximately \$40 million), and the National Center for Science and Engineering Statistics (approximately \$35 million), for a total of approximately \$1.7 billion.
- 3 For a list of indicators, see: "Schedule of Release Dates for Principal Federal Economic Indicators for 2012" available at <http://www.whitehouse.gov/sites/default/files/omb/inforeg/statpolicy/pfei-schedule-of-release-dates-2012.pdf>.
- 4 Andrew Reamer, "The Federal Role in Encouraging Innovation: The 'Is' Have It," Innovation Policy blog, December 17, 2010, available at <http://www.innovationpolicy.org/the-federal-role-in-encouraging-innovation-th>. See also Karen Mills, Elisabeth Reynolds, and Andrew Reamer, "Clusters and Competitiveness: A New Federal Role for Stimulating Regional Economies" (Washington: The Brookings Institution, 2008), available at [http://www.brookings.edu/reports/2008/04\\_competitiveness\\_mills.aspx](http://www.brookings.edu/reports/2008/04_competitiveness_mills.aspx).
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## About the Center for American Progress

The Center for American Progress is a nonpartisan research and educational institute dedicated to promoting a strong, just and free America that ensures opportunity for all. We believe that Americans are bound together by a common commitment to these values and we aspire to ensure that our national policies reflect these values. We work to find progressive and pragmatic solutions to significant domestic and international problems and develop policy proposals that foster a government that is “of the people, by the people, and for the people.”

## Center for American Progress



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### About Science Progress

Science Progress, a project of the Center for American Progress, is designed to improve public understanding of science and technology and to showcase exciting, progressive ideas about the many ways in which government and citizens can leverage innovation for the common good. Since its inception in the fall of 2007, Science Progress has helped shape the conversation about our country's investment in science.

science progress

### About Doing What Works

CAP's Doing What Works project promotes government reform to efficiently allocate scarce resources and achieve greater results for the American people. This project specifically has three key objectives:

- Eliminating or redesigning misguided spending programs and tax expenditures, focused on priority areas such as health care, energy, and education
- Boosting government productivity by streamlining management and strengthening operations in the areas of human resources, information technology, and procurement
- Building a foundation for smarter decision-making by enhancing transparency and performance measurement and evaluation

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