

China's Statistics: Are They Reliable?

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Analysis of China's economy is made more challenging by the uncertain accuracy of the country's official statistics. The politicization of statistics, reliance on bottom-up administrative reporting, use of nonstandard definitions, and parallel reporting systems in multiple agencies often make Chinese statistics confusing and potentially misleading. Many analysts believe that macroeconomic statistics overstate economic growth and understate unemployment. Bilateral trade statistics with the United States and Europe have had large discrepancies. For a number of years, agricultural statistics understated cultivated land area by 40 percent and overstated livestock inventory and output. In 2001, Canadian fisheries biologists argued that China's fish catch statistics were overstated, distorting the trend in world fish populations.

China's official statistical agency is the National Bureau of Statistics (NBS, formerly called the State Statistical Bureau). Like the U.S. Census Bureau, NBS conducts population censuses and periodic censuses of industry and governments. NBS conducts annual surveys of urban and rural households and reports China's national accounts and industrial and agricultural statistics. NBS conducted China's first modern agricultural census in 1997. Other agencies and state-sponsored agribusiness entities have their own statistical reporting capabilities for policy and business purposes, but NBS is the official source for most national statistics.

NBS publishes major statistical series in its annual *China Statistical Yearbook*. More detailed agricultural and rural statistics are published in NBS's annual *Rural Statistical Yearbook* and *Rural Household Survey Yearbook*, and *County Social and Economic Statistical Yearbook*. China's Ministry of Agriculture (MOA) publishes an annual *Agricultural Yearbook* that contains data on some commodities that NBS does not cover. NBS also publishes yearbooks for urban household surveys, prices, population, labor, township and village enterprises, and various industries. Monthly trade statistics are published by China's customs administration.

Agricultural Statistics

In China's Soviet-style bureaucracy, which was installed after 1949, statistics were gathered through bureaucratic administrative reporting. (Modern probability-based statistical survey methods have only recently been reintroduced in China.) Statistics became an integral part of the planning process and the rewards system. Rigid hierarchies were established for managing each aspect of the economy, and targets and quotas were handed down from the central government in Beijing to provincial authorities, to counties, to cities and townships, and to villages. At the end of the year, reports of production, income growth, crop yields, and other items were handed back up through the bureaucracy, and these reports, once aggregated, became the country's statistics. Officials at each level had incentives to pad the statistics to reach their targets or to avoid handing over taxes, procured commodities, or other obligations that are based on production, population, or other numbers. In recent years, many observers speculated that provincial statistical bureaus were exaggerating economic growth numbers to ensure that they met targets set by central authorities. It was widely reported that NBS did not have confidence in provincial numbers and reported national growth rates below rates reported by the provinces.

In recent years, international organizations and foreign governments have provided considerable technical assistance to help NBS modernize and improve its data collection and reporting capabilities in agricultural and other statistics (Food and Agriculture Organization; NBS). NBS is integrating sample surveys with traditional bottom-up complete reporting system. NBS and MOA each have a parallel complete reporting system that was put into effect when China was a centrally planned economy (Vogel). Village heads provide their township (the next administrative level) with estimates of basic data, such as household numbers, labor force, crop planted area, yields, and livestock numbers. Townships compile the data and report them to county statistical offices, which send the data to provincial offices. National totals are aggregated by NBS or MOA in Beijing. The accuracy of the complete

reporting system depends on the initial accuracy of the village head's report. Data on individual farms or households are not available to higher level statisticians to check for accuracy.

In 1997, NBS conducted China's first agricultural census, enumerating over 200 million rural households, as well as nonhousehold farm operations, administrative villages, towns, and townships. The census provided benchmark data (for 1996) on cultivated area, sown area to crops, livestock numbers, labor force, and other basic data that will be used to improve annual survey work (NBS). The agricultural census provided a more accurate estimate of cultivated land, which had been underreported for years (presumably to boost reported yields). Estimates of cultivated land area went from 95 million hectares (pre-census) to 130 million hectares (post-census). Similarly, China overreported livestock estimates until the census was taken. NBS now reports its livestock series beginning in 1996 (the year for census data), and cultivated land is reported only for 1996. It is still uncertain whether planted area is measured accurately (Vogel). At the local level, there are varying standards for measuring a mu, the traditional Chinese measure for land area (15 mu = 1 hectare = 2.471 acres), and it is difficult to verify the number of small land parcels in terraced areas.

Less Control, Less Accuracy

In most cases, China's statistics are becoming more reliable as modern survey methods are implemented. However, as the government's tight control over the population loosens and more of the economy moves toward privatization, the accuracy of many statistics is being challenged. Some observers question the accuracy of China's 2000 population census because of reports that many illegal migrants, unregistered children, and others evaded census takers (Becker). Rawski suggested that employment statistics undercount employment in tertiary industries, where a large share of employees are illegal migrants. More efforts are now being made to collect employment statistics from small firms—such as tertiary businesses—which were often left out of commercial and industrial statistics, which historically were collected from large state-owned enterprises.

As China's economy has become liberalized, the accuracy of bottom-up reporting systems for agricultural statistics has declined because leaders have less detailed knowledge of individual households than they

did when government control over farmers was tighter. Increased competition in agricultural markets, which may accelerate as a result of China's WTO accession, is reducing government control of agricultural procurement and marketing. The government grain bureau, cotton procurement, and other monopolies have been important sources of statistical information, but new ways of counting commodities in the supply pipeline will be needed as these monopolies erode.

"State Secrets" Keep Analysts in the Dark

Historically, Chinese authorities have kept secret market information that was available only to privileged government officials. Data on stocks of grain, oilseeds, cotton, and other major field crops held in China are not publicly available and are considered to be a state secret. Information about on-farm stocks is collected by NBS surveys, and information about commercial and government stocks is collected by the grain bureau system and agricultural development banks, but these data are not published. USDA and the United Nations Food and Agriculture Organization publish estimates of China's grain stocks, but those estimates are based on minimal information and are limited in detail. Gradually, China's government is making more *neibu* (internal use only) information available to the public, and the country's WTO accession commitments will mandate publication of even more information.

Duplicative reporting systems in different agencies create uncertainty for market analysts. For example, multiple agencies report their own production estimates for important crops, such as grain and cotton, and the estimates from different agencies are often inconsistent. Publication of data from the agricultural census was delayed for many months while the census estimates of land area were reconciled with contradictory estimates from other sources. NBS and MOA have parallel reporting systems and surveys. Some villages are covered by both agencies' surveys, while others are not. Greater interagency cooperation and reconciliation of differing estimates among agencies would improve the reliability of China's statistics.

Trade Statistics Discrepancies

Discrepancies between U.S. and Chinese statistics on bilateral trade were widely discussed in the early 1990s, when each country claimed to have a trade deficit with its counterpart. Since then, the statistics of both countries have shown the same trend—rapid

What We Need to Know

Will survey methods adequately replace bottom-up reporting systems?

Will greater transparency requirements after WTO accession improve the flow of information?

Will different organizations find means of sharing and reconciling data?

How much do distortions in the economy affect statistical measures of purchasing power?

growth in China's exports to the United States—but discrepancies remain.

The largest discrepancies are due to differences in counting China's exports to the United States via third countries or regions, mostly Hong Kong. In the early 1990s, the U.S. Census Bureau estimated that such transshipments constituted 80 percent of U.S. imports from China (China claimed the figure was 60 percent). The United States counts Chinese goods transshipped through Hong Kong as imports from China. The Chinese argue that the value added to goods in the "third place," estimated at 29 percent of import value (Dougherty), should not be counted as imports from China.

U.S. exports to China are also transhipped through third countries, but there is less discrepancy in export statistics because only about 25 percent of U.S. exports go through a third country or region. Another important conceptual difference between the two countries is that U.S. statistics include costs of shipping in exports, while China's do not. Some trade is not covered by statistics due to errors, misclassification, underinvoicing, or smuggling, which also leads to discrepancies.

Is Income Really That Low?

Per capita income figures converted to U.S. dollars with the official exchange rate usually understate the actual purchasing power of China's consumers. Urban consumers often receive subsidized health care, housing, utilities, education, and other services that are not counted in their incomes. Taxes are not paid directly by most urban residents, and prices for many items are much lower than in other countries. Much of the food, housing, and services consumed by the rural population

is produced at home or by informal labor; thus it may not be captured by income or spending statistics.

The concept of purchasing power parity (PPP) is used to improve cross-country comparability of incomes (Chen, Gordon, and Yan). The World Bank's PPP estimate of China's gross domestic product (GDP) per capita for 1999 was \$3,940, much larger than the official estimate of \$840 and probably a more accurate reflection of Chinese purchasing power. As China develops, reforms its socialist welfare system, and becomes more integrated with the world economy, many of these distortions are becoming less serious as health care, housing, and other goods and services are marketized and subsidies are reduced or abandoned.

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