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Chinese Statistics: Classification Systems and Data Sources

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Abstract

China has become a popular geographic area of research. Researchers make extensive use of Chinese official statistics, but these statistics are often not well understood. This article first clarifies three major issues that affect a wide range of Chinese statistics—from output and employment data to industry profitability—and then elaborates on data sources. The three data issues are changes over time to the sectoral classification system, changes to the ownership classification system, and changes to the coverage of the industry sector. Many of these changes have gone unnoticed or remain poorly understood, leaving the researcher puzzled about varying labels, apparently inconsistent data, and discontinued time series. The second part of the paper offers a gateway to a wealth of Chinese statistics whose existence is not widely known. It also points out the limitations of some of these sources and provides an overview of the secondary literature that discusses the meaning and quality of particular Chinese statistics.

Keywords: China, National income accounting, National statistical system, China Standard Industrial Classification System, Industrial statistics coverage, Ownership classification system, National statistical data sources/limitations/explanations.

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1. INTRODUCTION

China researchers frequently draw on Chinese official statistics for their analysis. These statistics are used for a wide range of purposes, from academic research to policy analysis and the evaluation of business opportunities.

Two commonly used sources of Chinese official statistics are the CEIC China Premium Database (<http://www.ceicdata.com/China.html>) and the National Bureau of Statistics' website (<http://www.stats.gov.cn>). However, one soon finds that while the CEIC database reports a large number of datasets, many series run for only a limited amount of time, and precise definitions as well as details on the coverage of statistics units are hard to come by. Similarly, on the NBS website one is either led to an online copy of the *Statistical Yearbook*—which all too often leaves one to one's own devices in figuring out what exactly a particular series means, why it was discontinued, or what the implications of a change in label are—or to a database with limited time series data.

A short journal article cannot explain “all” Chinese statistics. What this article does is to clarify three issues that affect almost all Chinese statistics that economists are typically interested in (such as output and employment data), data classified by ownership, and detailed industry statistics. The mystery of discontinued series or changes in labels is often quickly resolved if one is aware that the sectoral classification system changed four times during the reform period, that state ownership can mean something very different at different points in time and depending on the concept used, and that detailed industry data have experienced an extraordinary large number of statistical breaks over the reform period. This is the subject of the first part of this paper.

For China scholars and non-China scholars alike, finding data beyond what is covered in the two databases mentioned above (including the *Statistical Yearbook*) is often a daunting task, and

quickly abandoned in favor of some easily constructed proxy. But an astounding volume of data is regularly compiled and published in China. The legacy of a planned economy (with its need for a large volume of data) combined with a current government actively engaged in economic policy means that official data in China are plentiful, far beyond what one finds in a typical developing economy. While one has to be careful about what the data mean, the abundance of statistics is an economist's paradise. The second part of this paper provides a list of key data sources, provides comments on the limitations of some of the sources, and points out secondary literature that explains particular Chinese data.

2. CLASSIFICATION SYSTEMS

Working with Chinese data, ideally one would want all data series follow the same sectoral classification system. This is not always the case as the sectoral classification system was revised repeatedly and at any given point in time not always applied equally to all variables. The ownership classification system changed in 1998, while in industry the sectoral classification and the enterprise coverage of the DRIEs was revised repeatedly.

2.1 Sectoral classification

At both the national and the provincial levels, data are usually available for the economy as a whole as well as by sector. The main sectoral breakdown of the economy in the national income and product accounts (NIPA) is into primary, secondary, and tertiary sectors.

The primary sector, i.e., agriculture, comprises farming, forestry, animal husbandry, and fisheries. Comprehensive data on all subsectors are typically limited.

The secondary sector comprises industry and construction. For industry, data are available on up to 41 individual industrial sectors, with the precise number depending on the classification system in use at a given point in time. Time series data by industrial sector are available only for

the directly reporting industrial enterprises (DRIEs), i.e., those enterprises that report regularly to the statistics *xitong* (functional bureaucracy), for variables ranging from output to employment, balance sheet, and profit and loss account data. The DRIE data for individual industrial sectors are reported in the industry statistics and are not reported as part of the NIPA.

Tertiary sector data are available in the NIPA and in the employment statistics for an exhaustive set of subsectors (though in the employment statistics not always covering all employees). The most detailed breakdown of the tertiary sector is into 12 to 15 subsectors, depending on classification system.

China's sectoral classification system changed four times in the reform period:

- Prior to 1984, the NBS used a classification system that had not been formally approved by China's authority in charge of standards.
- The first formal classification standard (GB, *guobiao*) was issued in 1984, labeled GB/T4754-1984 (in the following abbreviated "GB1984").
- GB1984 was revised in 1994 (GB/T4754-1994, or "GB1994"), following a trial revision in 1992.
- In 2002, GB2002 was issued (GB/T4754-2002, "GB2002").
- In 2011, GB2011 was issued (GB/T4754-2011, "GB2011").

An official list of sectoral categories is available for GB1984, GB2002, and GB 2011, not for the pre-1984 classification system or for GB 1994.¹ A general description of the changes between GB1994 and GB2002 is given in the first through seventh issues of the 2003 edition of the NBS magazine *Zhongguo tongji*. NBS (2011) shows the correspondence between GB2002 and GB2011 and between GB2011 and the International Standard Industrial Classification of All Economic Activities (ISIC/Rev. 3).

The pre-1984 classification system and GB1994 are deduced as follows. The sectoral employment data in the 1990 population census, as presented in the *Population Census 1990*, are

in perfect accordance with the published GB1984, and the same holds for the 2010 population census and GB2002. This suggests that the available sectoral employment data of the 1982 population census may also match the (unpublished) pre-1984 classification system, and the available sectoral employment data of the 2000 population census may also match the (unpublished) GB1994. The discussion in the magazine *Zhongguo tongji* of the changes between GB1994 and GB2002 likewise suggests that the classification of employment values in the population census 2000 is in accordance with GB1994.

Appendix 1 through Appendix 5 present the five classification systems at the one- and two-digit level:

- pre-1984 as deduced from 1982 population census data,
- GB1984 as available in official publications and used in the population census of 1990,
- GB1994 as deduced from population census data of 2000,
- GB2002 as available in official publications and used in the population census of 2010,
- and GB2011 as available in official publications.

The first four appendices include the population census employment values of the corresponding years 1982, 1990, 2000, and 2010 (since 2000 collected for only a subset of the population, in the censuses' long-form survey) in order to give some indication of the relative size of the different sectors. Employment rather than output values are included because output values are not available at the two-digit level for all sectors.

Appendix 6 presents the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 3.1. China's domestic classification systems at no point match ISIC 2, 3, 3.1, or 4 (draft version). [Due to their length, all appendices should be posted on a website and not be included in any print version of this article.]

The first and last columns of Appendix 1 through Appendix 5 show the transitions between the different standards. Table 1 summarizes the major changes over time. Thus, (i) GB1984 for

the first time separately listed agricultural (and water conservancy) services as subsector of the primary sector (Appendix 2, first column, top rows), (ii) disaggregated and relabeled industrial subsectors (presumably keeping the aggregate of industry unchanged), and (iii) retained the pre-1984 tertiary sector subsector classifications. The two standards appear largely compatible for the three main economic sectors (primary, secondary, and tertiary sectors) and also at the one-digit classification level with 13 (exhaustive) sectors. The only concern is that the subsector ‘agricultural (and water conservancy) services’ in 1984 was newly listed as part of the primary sector; it was not included anywhere in the pre-1984 classification. If it was subsumed in other agricultural subsectors in the pre-1984 classification, then the two standards are compatible at the level of the three main economic sectors. If, however, it was moved from the tertiary sector to the primary sector, then the two standards are not fully compatible at the level of the three main economic sectors—the discrepancy would be small as ‘agriculture (and water conservancy) services’ accounted for only 0.20 percent of economy-wide employment in 1990.

In GB1994, the overall 13-sector one-digit classification turned into a 16-sector classification. Water conservancy moved from the primary to the tertiary sector (to become part of geological prospecting and water management). The effect on the primary and tertiary sector aggregates is likely small, with only 0.07 percent of economywide employment (as captured by the long-form survey of the 2000 population census) in water conservancy. Apart from the switch of water conservancy from the primary to the tertiary sector, the three main economic sectors are compatible between GB1984 and GB1994. The industry subsector classification changed again, but the aggregate of industry appears unchanged. Construction lost one small subsector, but that subsector may have been integrated in a different construction subsector. The tertiary sector subsector classification underwent a major revision that makes comparisons of tertiary sector subsectors between GB1984 and GB1994 near-impossible.

In GB2002, the total number of one-digit sectors increased to 20, with the classification now extending over four levels (*menlei, dalei, zhonglei, xiaolei*).² The description of the changes in GB2002 (in comparison to GB1994) provided in the first through seventh issues of the magazine

Zhongguo tongji in 2003 suggests a wide range of re-classifications, including across the three economic sectors. For example, in GB2002, one two-digit and one three-digit sector moved from industry into agriculture.³ One lower-level agricultural sector (‘household sideline businesses,’ *jiating lianying fuye*) is dissolved into the corresponding other (including industrial) sectors. In industry, the main changes are reallocations of three-digit sectors between industrial two-digit sectors. In construction, one significant change is the switch of institutions involved in preparatory work for construction from the construction sector to the tertiary sector (into polytechnic services). In the tertiary sector, the one-digit classification is revised and expanded, with reclassifications of lower-level sectors. Overall, the three main economic sectors appear only approximately compatible between GB1994 and GB2002, with minor and bi-directional changes between economic sectors. In addition, the coverage of the tertiary sector may have been extended to economic activities that were previously not included in the calculation of GDP.

GB2011 retains unchanged the three main economic sectors as in the GB2002, as well as the total of 20 one-digit sectors. The innovations are changes in labels, changes in the order of tertiary sector subsectors, and reclassifications within the secondary and tertiary sectors.⁴ GB 2011 went into effect on 1 November 2011 and first applies to the data of 2012.

[Table 1 about here]

In identifying the data relevant for productivity analysis, the issue of classification systems matters for ensuring consistency over time as well as across variables. Official data often come *without* an explicit statement as to which classification system is being used and it must then be deduced from the labels of individual sectors. At times, a published time series follows different classification systems in different years, or one table in the *Statistical Yearbook* reports data following two different classification systems, without this being made explicit.

2.2 Ownership classification

In 1998, the NBS revised its ownership classification. Table 2 compares the ownership classification in use since 1998 with that in use prior to 1998. The collective-owned employee stock cooperatives are no longer included in a summary statistic on collective-owned enterprises but are now listed separately.⁵ “State-owned enterprises” now refers only to the unreformed, or “traditional,” or “pure” SOEs, i.e., SOEs established or organized under the 1988 SOE Law. The SOE classification now also excludes the 100 percent state-owned limited liability companies as well as the joint operations between two or more state-owned enterprises. A stock company subcategory was added to each of three ownership types: private enterprises, HKMT (Hong Kong, Macao, Taiwan) enterprises and (non-HKMT) foreign-invested enterprises. This implies that the separate “ownership” category called “stock companies” now *excludes* stock companies in private, HKMT, or foreign ownership. The “ownership” category “limited liability companies” newly includes 100 percent state-owned limited liability companies. It continues to exclude privately owned limited liability companies (which are included in the private enterprise category). Presumably, the same pattern holds for HKMT and wholly foreign-owned enterprises in the form of limited liability companies.

Since 1998, the individual-owned economy (*getiyu*) is no longer included in the ownership classification as these self-employed are not formally registered as enterprises. This category comprised the household “enterprises” (or collaborations between household “enterprises”) with fewer than eight persons.

[Table 2 about here]

With the category state-owned enterprises now only covering the unreformed SOEs, a separate, new category of “state-owned and state-controlled enterprises” (SOSCEs) outside the formal ownership classification appeared in many statistics to capture state ownership in the various enterprise forms. The SOSCEs comprise the

- pre-1998 definition SOEs, i.e.,
- unreformed (or: pure) SOEs,
 - SOE-SOE joint operation enterprises, and
 - solely state-owned limited liability companies,
- + all (other) enterprises (including limited liability companies and stock companies) in which the state has a controlling stake.⁶

The effect of these redefinitions is the existence of three different concepts of state ownership in the official statistics:

- the pre-1998 SOE category (unreformed SOEs, solely state-owned limited liability companies, SOE-SOE joint operation enterprises),
- the SOE category since 1998 (unreformed SOEs),
- and the SOSCEs (since 1998).⁷

A direct comparison between the three concepts is first possible for 1999. In 1999, the gross output value (GOV) of unreformed SOEs was 2.2 trillion yuan; the GOV of unreformed SOEs, SOE-SOE joint operation enterprises, and solely state-owned limited liability companies (pre-1998 definition of SOEs) was 2.6 trillion yuan; and the GOV of SOSCEs was 3.6 trillion yuan (*Statistical Yearbook 2001*, p. 401). In 2010, the three values were 5.7, 8.5, and 18.6 trillion yuan (*Statistical Yearbook 2011*, pp. 499, 510). I.e., SOSCE GOV grew much more rapidly than the output of the unreformed SOEs or the output of the pre-1998 SOE category, and any political interest in a large state share in the economy suggests the use of the new concept of SOSCEs. But compared to an almost ten-fold increase in nominal GOV of all DRIEs in this period, SOEs in all three definitions fell behind with a three-fold, three-fold, and five-fold increase only. The SOSCE share in DRIE GOV over this period fell from 49 percent to 27 percent.

2.3 Industrial sector statistics

The NBS releases annual data on the DRIEs by industrial (two-digit) sector. These data are frequently of interest as they comprise output, balance sheet, and profit and loss account data; since 1998, employment values of the DRIEs are also reported in the same tables. The fact that all data come in one and the same (or a split) table eliminates any compatibility issues between variables.

However, some of the changes to the sectoral classification system over time affect these industrial two-digit sectors. Less obvious is the changing coverage of the DRIEs over time.

Two-digit sectoral data for a larger set of enterprises than the DRIEs are available only in the infrequent industrial and economic censuses. With the help of these censuses it is possible to estimate to what extent the DRIEs—on which detailed *annual* data are available—are representative of all industry.

2.3.1 Sectoral classification system and coverage of DRIEs

In NBS publications, consistent classifications are in use for the following periods:

- 1980-84 (13 industrial sectors, with a very limited number of variables),
- 1980 and 1984-1992 (30 industrial sectors following GB1984),
- 1993-1997 (39 industrial sectors following GB1994),
- 1998-2002 (37 industrial sectors following GB1994),
- 2003-2011 (39 industrial sectors following GB2002),
- and 2012- (41 industrial sectors following GB2011).

For each variable, in each period, the sum across sectors comes close to, or equals, the reported “total” DRIE value. When the sum across sectors does not equal the total, the implicit residual could reflect the (in all years) exclusion of military industry. A sector “weapons and

ammunition manufacturing” is included in GB1994 (only), with no data reported. In GB2002 this sector disappears, not to re-appear at any other location of the classification system. In 1995, the residual industry sector is relatively small in size, accounting for 3 percent of employment and enterprise numbers and for 2 percent of GOV; however, the typical DRIE in that sector is relatively large in terms of output or employment per enterprise.

The coverage of the DRIEs first changed in 1998.

- Through 1997, the DRIEs were defined as “industrial enterprises with independent accounting systems at the township level and above.”
- Since 1998, the DRIEs are defined as “industrial state-owned enterprises (de facto SOSCEs) with (de facto) independent accounting systems and all industrial non-SOSCEs with independent accounting systems and annual sales revenue in excess of 5m yuan.”⁸

The short-form label of the DRIEs in the Chinese statistics changed correspondingly, from “above-norm” to “enterprises above designated size.”

Subsequently, the coverage of the DRIEs was redefined three times, and the 2004 economic census led to the capture of previously excluded enterprises. These changes are discussed in the following.

Two minor redefinitions occurred in 2005 and in 2007.⁹ In 2005, the term “sales revenue” was changed to “revenue from principal business.”¹⁰ In 2007, the separate inclusion of all state-owned enterprises disappeared and only the size criterion was retained. Starting in 2007, thus, the DRIEs comprise “all industrial enterprises with independent accounting systems and annual revenue from principal business in excess of 5m yuan.”

Starting in 2011, the size criterion changed from 5m yuan to 20m yuan.¹¹ Otherwise, the earlier definition was retained.

A statistical break occurred around 2004, following the 2004 economic census, with revisions to some DRIE data. Thus, the *Statistical Yearbook 2005* (p. 493)—based on pre-

economic census data compilation methods—covered 219,463 DRIEs in 2004. Economic census data of 2004 are incorporated in subsequent issues of the *Statistical Yearbook*, with the 2007 issue being the first one to report key data on more than just the current year, with a set of data for the years since 1998 (p. 508). The earlier 2004 number of DRIEs is revised to 276,474, a 26.0 percent upward revision. GOV is revised upward by 7.7 percent. Value-added is *not* revised. Data for the earlier years, 1998 through 2003, are not revised. (*Statistical Yearbook 2005*, p. 488)

The only explanation that can reconcile the apparent discrepancy between the revision to enterprise numbers and GOV but not value-added in 2004 is if the definition of what constitutes an enterprise changed in 2004. For example, if companies that comprise several factories were previously counted as one enterprise but are now newly counted as several enterprises, the number of enterprises and GOV increases, but value-added remains unchanged. However, the number of employees is also revised (as are profit and loss account data), from a pre-economic census 60.9862m to 66.2209m, an increase of 10.9 percent (*Statistical Yearbook 2005*, p. 494, 2007, p. 510).

This suggests that the economic census newly captured a significant number of enterprises which, given the proportion of the revision to the enterprise number (+26 percent) vs. GOV (+7.7 percent) and employment (+10.9 percent), are of relatively small size, possibly just barely making the 5m yuan sales revenue mark. That the NBS did not correspondingly revise value-added questions the quality of the output data. The value-added data are more likely to be deficient than the GOV data because enterprise accountants have no immediate interest in value-added but in GOV (sales revenue plus changes in inventories). The NBS obtains value-added by applying ratios to GOV values.¹²

Overall, the changes to the coverage of the DRIEs reduces the possibility of consistent time series analysis:

- The re-definition of the DRIEs in 1998 creates a severe statistical break.

- While the group of DRIEs changes every year in response to the entry or exit of firms, and to changes in the size of existing firms around the size threshold, in 2004 a set of enterprises that previously avoided reporting was newly included. These are likely to be relatively small enterprises. It causes a statistical break in all DRIE-related time series except value-added, where a break, possibly wrongly, does not occur.
- The impact of the two redefinitions of 2005 and 2007 on the overall values of the DRIEs should be minor because revenue from principal business is likely to be less than one percentage point different from sales revenue, and because nearly all industrial state-owned enterprises have annual revenue from principal business in excess of 5m yuan.¹³
- The 2011 change in the size criterion will likely have a significant impact.

Together, the changes to the sectoral classification system and the changes to the coverage of the DRIEs imply consistent data for the following periods:

- 1980-84: 13 industrial sectors, with a very limited number of variables, for the pre-1998 coverage of the DRIEs;
- 1980 and 1984-1992: 30 industrial sectors following GB1984, for the pre-1998 coverage of the DRIEs;
- 1993-1997: 39 industrial sectors following GB1994, for the pre-1998 coverage of the DRIEs;
- 1998-2002: 37 industrial sectors following GB1994, for the post-1997 coverage of the DRIEs;
- 2003-2004: 39 industrial sectors following GB2002, for the post-1997 coverage of the DRIEs using pre-economic census 2004 data;
- 2004-2005 or -2007 or -2010: 39 industrial sectors following GB2002, for the post-1997 coverage of the DRIEs using post-economic census 2004 data, with two minor re-

definitions in 2005 and 2007 (revenue from principal business as criterion rather than sales revenue, and the omission of “all state-owned enterprises” as a separate category from the definition);

- 2011: 39 industrial sectors following GB2002, for the post-1997 coverage of the DRIEs using post-economic census data and a new size criterion of 20m yuan;
- and 2012-: 41 industrial sectors following GB2011, for the post-1997 coverage of the DRIEs using post-economic census data and a new size criterion of 20m yuan.

2.3.2 Representativeness of the DRIEs in the aggregate

Researchers often generalize their findings from DRIE data—the only comprehensive annual industry data available—to all of China’s industrial sector (and may not make explicit that their industry data are limited to the DRIEs). But the production structure of DRIEs could differ significantly from that of other industrial enterprises.

At the aggregate level, a comparison between DRIEs and all industry is possible using output and employment data. The share of DRIEs in industry value-added has fallen continuously from above 95 percent in 1979 to 75 percent in 1992 and reached a low of 61 percent in 1997 (Figure 1, with estimated DRIE value-added through 1992). After the statistical break in the definition of the DRIEs in 1997-1998, their share in industry value-added in the NIPA rose from 58 percent in 1998 to 87 percent in 2004, presumably reflecting the fact that an increasing number of industrial enterprises reached annual sales revenue of 5m yuan. Following the 2004 economic census, industry value-added was retrospectively revised upward, slightly lowering the share of DRIEs (whose value-added was not revised).

Figure 1 suggests two data problems. First, the jump in the share of the DRIEs from 75 percent in 1992 to 91 percent in 1993 and the subsequent equally drastic decline to 76 percent in 1994 (and to 62 percent in 1995) is not plausible. The concept of value-added was newly introduced in 1993 (with data on value-added of the DRIEs retrospectively available for the

years since 1992). The NBS may have experienced difficulty in compiling value-added data in the early years, including the proper handling of the also newly introduced value-added tax.¹⁴ Alternatively, the industry value-added data reported in the NIPA could be problematic.¹⁵

A second problem are the 2006 and 2007 shares of DRIEs in the value-added of industry, at 99.7 percent and 109.2 percent (and the rapid rise to such high shares over the previous years). The 2006 share seems far too high, given that in the previous year, 2005, the DRIEs accounted for 93 percent of value-added of all industry. The 2007 share, in excess of 100 percent, is logically not possible. These values question the quality of either the DRIE data or the quality of the NIPA data. Publication of DRIE value-added data was discontinued in 2008.

DRIE value-added data could be problematic because value-added is a national income accounting concept, not an enterprise management concept. The closest measure that enterprise managers (and their accountants) are likely to care about is sales revenue. Sales revenue plus net additions to inventories approximately equals GOV,¹⁶ with typically a difference between sales revenue and GOV on the order of 1 percent only. The NBS can calculate value-added by applying a ratio to the GOV data. This ratio has changed little over time. The average of the years 1990-1999, for all of industry, was 3.50 with a coefficient of variation of 0.03; in 1998-2007, for the DRIEs, the average was 3.45 with a coefficient of variation of also 0.03.¹⁷ If the quality of the ratios is poor, then DRIE value-added data may be of poor quality. For industry value-added in the NIPA, the NBS could rely on industry and economic censuses to obtain somewhat reliable measures of value-added for the census years, and fill in the years in between (or since a census) by using the annual changes in DRIE GOV.

Figure 2 shows a similar trend for the case of employment, but at a lower level throughout. The share of DRIEs in industry employment fell from 0.67 in 1980 to 0.40 in 2001, before rising again, to 0.57, in 2010. With the redefinition of the group of DRIEs in 2011, the share value fell back to 0.54. Thus, while DRIEs consistently account for the bulk of industrial output, their share in employment never exceeded 0.67, fell to values as low as 0.40, and leveled out at a value around 0.54 in recent years.

[Figure 1 and Figure 2 about here]

2.3.3 Representativeness of the DRIEs in individual industries

At the level of individual industrial sectors, representativeness can come in one or both of two ways. The DRIEs could account for a very large share of that sector, in which case the DRIEs constitute (almost) all activities of that sector, or the typical DRIE in that sector could be very similar to the typical non-DRIE in that sector.

Analysis of the DRIE share in individual industries is possible for 1995, 2004, and 2008 using data from the 1995 industrial census and from the 2004 and 2008 economic censuses. For 1995, data on all enterprises within any one individual industrial sector are not available; what are available by individual industrial sector are data on “industrial enterprises at the village level and above *plus* private, joint, and individual-owned industrial enterprises with annual sales revenue in excess of 1m yuan,” here abbreviated “village+ enterprises.” The only missing enterprises are private, joint, and individual-owned industrial enterprises with annual sales revenue *below* 1m yuan (“small private+ enterprises”). In the aggregate across industry, the “village+ enterprises” in 1995 accounted for 85 percent of industrial GOV, with data on value-added not available. The DRIEs accounted for 67 percent of industrial GOV and for 62 percent of industrial value-added.¹⁸

Table 3 examines the output volume of DRIEs (and SOEs) in comparison to the “village+ enterprises,” (industrial) sector by sector, for the three variables on which data for the “village+ enterprises” are available: enterprise numbers, GOV (no value-added data are available), and employment.¹⁹ Five monopolistic sectors stand out, in which the DRIEs account for more than 90 percent of the GOV of the “village+ enterprises:” ‘petroleum and natural gas extraction,’ ‘tobacco processing,’ and the three utilities sectors.

DRIEs (and SOEs) account for a large share in the GOV or in the employment of the “village+ enterprises” in those sectors in which the GOV or the value-added per DRIE (value-

added data are available for DRIEs and SOEs) or the number of employees per enterprise is large. This suggests that when the DRIE share in the “village+ enterprises” (in terms of output or employment) is low, the DRIE share in the larger aggregate of *all* industry is likely to be even lower. This is the case because the (in terms of sales revenue and employment) “small private+ enterprises” by definition are likely to crowd into sectors with low output and employment (strong correlates to sales revenue) per enterprise. The degree of representativeness indicated by the DRIE share in “village+ enterprises” thus is likely to exaggerate the DRIE share in all industry more for sectors in which the DRIE share is low than for sectors in which the DRIE share is high. Table 6 reports the significance levels of the core correlation coefficients for all three years, 1995, 2004, and 2008, with 2004 and 2008 discussed below; throughout, the results are reported excluding a small number (3-5) of monopoly sectors, and are mostly identical if these sectors are included.²⁰

In 1995, the DRIEs account for less than 50 percent of “village+ enterprise” GOV in two sectors (5, 16), and for 80 percent or more in 21 sectors. In the latter 21 sectors— which accounted for 70 percent of DRIE value-added and for 59 percent of “village+ enterprise” GOV—one might consider the DRIEs as relatively representative of that sector since they constitute the bulk of activities of that sector, while in the former two they may not be. Sectors in which the DRIEs’ share in the GOV of “village+ enterprise” is in the 60-70 percent range may have quite a few “small private+ enterprises.” For example, the garments industry, the leather industry, and the timber industry (sectors 13-15) all come with low DRIE value-added per enterprise (and are not known monopoly industries), which suggests they are natural entry industries for the “small private+ enterprises.”

How similar are the DRIEs to the non-DRIEs, especially in those sectors in which DRIEs account for a small share of output or employment? The correlation coefficients between non-DRIE and DRIE (or SOSCE) values of GOV per enterprise and GOV per employee are significantly positive (but not those of employment per enterprise). I.e., when GOV per enterprise in the DRIEs of a particular sector is low, it is also low for the non-DRIEs. Except that

for the non-DRIEs, values tend to be lower throughout than for the DRIEs (or SOSCEs). Thus, in 1995, the non-DRIE values as a fraction of the DRIE values, in the aggregate across all sectors, were: GOV per enterprise 0.18, employment per enterprise 0.20, and GOV per employee 0.90. The non-DRIE value of GOV per employee relative to the DRIE value was highest in ‘printing and record pressing’ (sector 18), at 0.64, and second-highest in ‘furniture manufacturing’ (sector 16), at 0.61.

Going a step further, in case the share of DRIEs in output or employment of a particular sector is relatively small, are the non-DRIE characteristics then particularly close to the DRIE characteristics, i.e., is the ratio of non-DRIE to DRIE values high (approaching unity)? If so, then if DRIEs account for only a small share of a sector, they can still be representative of the whole sector if the enterprises on which data are only available in censuses are very similar to the DRIEs (on which annual data are available). For 1995, the answer is to the negative. The non-DRIEs are not similar to the DRIEs in sectors in which DRIEs have a low share. There is either no correlation (for GOV per enterprise or per employee), or the correlation is positive (for employees per enterprise), in which case DRIEs and non-DRIEs share the same characteristics only in sectors with a large share of DRIEs. I.e., in 1995, in sectors with low DRIE penetration, these DRIEs are not representative of all enterprises. This changes by 2004.

By 2004, the DRIEs accounted for 91 percent of the GOV of all industry and 93 percent of industry value-added in 2004.²¹ However, there are two caveats. First, the economic census does not consider (and thus not include in its total) the individual-owned “enterprises”—which are not formal enterprises. Nevertheless, given that the aggregate relative size of the *individual-owned* enterprises is unlikely to have increased since the 1995 industrial census, the share of DRIEs in total industrial output (including the individual-owned enterprises) is likely larger in 2004 than in 1995. A second caveat are the implausibly high shares of the DRIEs in 2006 and 2007 (Figure 1), possibly also questioning the quality of the earlier data, of 2004.

Table 4 provides a breakdown by individual industrial sector of DRIE and “all industry” values reported in the 2004 economic census. The share of DRIEs (SOSCEs) in the number of

enterprises, in GOV, or in employment of all industry is positively correlated with the enterprise size measured as DRIE (SOSCE) GOV per enterprise or employment per enterprise, as well as with GOV per employee (with the one exception that the SOSCE share in the number of industrial enterprises is not correlated with enterprise size values). In other words, as in 1995, in an industry in which the average DRIE (SOSCE) is relatively large, DRIEs (SOSCEs) account for a relatively large share of the output of that industry. Corresponding value-added data are not available by individual industrial sector for the group of all enterprises.²²

By 2004, DRIEs accounted for at least 50 percent of GOV in every single industrial sector. They accounted for less than 70 percent of GOV in only four sectors (which, together, accounted for 2.2 percent of aggregate industrial GOV). The DRIE share was higher than 80 percent in 29 out of the 39 sector, with GOV of these sectors accounting for 88.8 percent of aggregate industrial GOV. The employment picture is slightly different: DRIE shares in sectoral employment are lower, with shares below 50 percent in three sectors, and shares above 80 percent in 11 sectors only. GOV and employment shares, though, are highly correlated, for DRIEs as well as for SOSCEs.

How similar are the DRIEs to the non-DRIEs, especially in those sectors in which DRIEs account for a small share of output or employment? The correlation coefficients between non-DRIE and DRIE (or SOSCE) values of the three ratios (GOV per enterprise, employment per enterprise, and GOV per employee) are significantly positive throughout. When GOV per enterprise (etc.) in the DRIEs of a particular sector is low, it is also low for the non-DRIEs, except that for the non-DRIEs, values tend to be lower throughout than for the DRIEs (or SOSCEs). Thus, in 2004, the non-DRIE values as a fraction of the DRIE values, in the aggregate across all sectors, were: GOV per enterprise 0.03, employment per enterprise 0.10, and GOV per employee 0.25. The non-DRIE value of GOV per employee relative to the DRIE value was highest in water production and distribution (sector 39), at 0.64, and second highest in the manufacture of articles for culture etc. (sector 18) at 0.45.

In contrast to the findings for 1995, if the share of DRIEs in output or employment of a particular sector is small in 2004, then the non-DRIE characteristics consistently come close to the DRIE characteristics. This means that if the share of DRIEs in output or employment of a particular sector is small, the typical DRIE in that sector strongly resembles—or: is representative of—the typical non-DRIE in that sector. In contrast, when the DRIEs account for a very large share of output or employment in a sector, the typical DRIE in that sector is unlikely to have the same characteristics as the typical non-DRIEs in that sector, but given that the DRIEs account for a very large share of output and employment in that sector, there is little else in this sector besides DRIEs. Thus, by 2004 DRIEs are representative of all enterprises in an industrial sector either because they strongly dominate that sector or—if they don't strongly dominate the sector—because their characteristics are similar to those of the non-DRIEs.

In 2008, DRIEs accounted for 93 percent of the GOV of all industry (which excludes the individual-owned economy), with no value-added data on DRIEs available any more. Table 5 provides the sectoral breakdown. All patterns hold as in 2004: when DRIEs (or SOSCEs) are relatively large in terms of output or employment per enterprise, they account for a large share of that sector's output, total number of enterprises (though not for SOSCEs), and employment. In 34 out of the 39 industrial sectors, DRIEs accounted for 80 percent or more of output; in terms of employment shares, only two sectors had DRIE shares below 50 percent, while 14 sectors had DRIE shares above 80 percent.

DRIE and SOSCE values for the three ratios (GOV or employment per enterprise, GOV per employee) continue to be highly positively correlated with the non-DRIE values. Compared to 2004, the (double-) ratios of Non-DRIE to DRIE values are even smaller: 0.02, 0.10, and 0.20. For GOV per employee, the highest ratio is 0.46 in water production and distribution, closely followed by relatively high ratios throughout the first half of the manufacturing sectors. Also as in 2004, if the share of DRIEs in output or employment of a sector is low then the characteristics of the typical DRIE in that sector are close to the characteristics of the typical non-DRIE in that sector. The conclusion thus, again, is that in sectors with a relatively small share of DRIEs, non-

DRIEs are similar to DRIEs, i.e., DRIEs are representative of non-DRIEs, while in sectors with a relatively large share of DRIEs there is little else besides DRIEs to begin with.

Overall, Figure 1 with aggregate data suggests that the DRIEs are more representative of all industrial enterprises early in the reform period and in the 2000s than in the 1990s. Questions remain about the quality of output data in the late 2000s and about the extent of the individual-owned economy that is missing from the industry totals. The detailed sectoral data suggest that in 2004 and 2008 DRIEs are representative of all industry in virtually all sectors, either by virtue of accounting for much of output and employment in a sector or by virtue of having the same characteristics as the non-DRIEs; this is less the case in 1995.

[Table 3, Table 4, Table 5, and Table 6 about here]

3. SOURCES OF CHINESE STATISTICS

Data availability differs between the pre-reform and the reform period. Statistics going back to the early years of the PRC usually start with the year 1952, some with 1949. Data for the period 1949/52 through 1977 are relatively scarce. The quality of the data of some pre-reform years, such as the years of the “Great Leap Forward” and the “Cultural Revolution,” are likely to be poor as data for these years were assembled retrospectively in later years. Recent statistical publications, when reporting time series data, tend not to report pre-reform period data but to start with the year 1978.

The statistics *xitong* publishes economic data ranging from NIPA aggregates to price indices and labor market indicators, as well as various socio-demographic data. Some of these data have been collected by the statistics *xitong* itself, and some are obtained from other government departments. Each government department may also issue its own statistical publication(s). The NBS explains some of the data that it publishes, while a research literature explains Chinese data and examines its quality.

3.1 Data publications

Some statistical publications cover a wide range of variables, comprising different areas of the economy and/or society, typically for a particular year; the key example is the *Statistical Yearbook* (of China). Others cover a narrower range of variables over a longer period of time, or focus on a particular topic in a particular year with limited time series data. Some publications are one-off publications, reporting on one particular event, typically a census.

Provincial data are included in some national-level publications and are also published by each province, in the form of provincial statistical yearbooks and occasionally other provincial statistical publications.²³ These provide more detail on a particular province than national-level publications do. The statistics departments of some municipalities also publish data compilations, usually in the form of municipal statistical yearbooks. Localities may publish separate compendia with long-run data for the particular locality or with statistics on a particular sector or topic (such as provincial industry statistics).

Most publications are in Chinese only. Bilingual publications, or English language editions, are explicitly noted below.

Annual yearbooks, which come with a particular year in the title, typically do not contain data for the year given in the title but data for the previous year (and often also for earlier years). The year given in the title tends to be the year in which the book was published.

The data reported in the *Statistical Yearbook* are available online at the NBS website (at www.stats.gov.cn), with several months' time lag, free of charge, and starting with the 1996 issue.²⁴ The website further provides quarterly and monthly data on selected indicators since 2001 (2002 in the English version), as well as data on recent censuses. The provision of data via this website appears to be under constant improvement both in terms of the range of data provided and in terms of the time span covered. The English language version of the website tends to be lagging behind.²⁵

The NBS website (in the Chinese version) also provides links to the statistics webpages of other government organizations and of provincial statistics departments. Some provincial statistics departments—and a few municipal/prefectural statistics departments—also provide data online. Many of the recent statistical yearbooks come with a data CD that contains all data printed in the yearbook; some of the data on the CD have more decimals than the data printed in the yearbook (apparent only when one examines the individual cells of a spreadsheet provided on the CD).

Outside China, the CEIC Data “China Premium Database” (<http://www.ceicdata.com/>) provides a wide range of data. Another source of Chinese statistics is the “China Data Center” at the University of Michigan (<http://www.umich.edu/~iinet/chinadata/>). It draws on NBS data as well as on data from other Chinese government institutions; some of these are integrated into a geographic information system.

3.1.1 Annual data

The NBS publishes annual data in approximately two dozen statistical yearbooks. The primary publication is the *Statistical Yearbook (China Statistical Yearbook, Zhongguo tongji nianjian)*, available starting in October of each year with data through the previous year.

The data from a particular year first appear in a brief “Statistical communiqué on the economic and social development in year XXXX” (also: “Statistical Bulletin;” *XXXX nian guomin jingji he shehui fazhan tongji gongbao*) published in February of the following year, and then in a more extensive *Statistical Abstract (China Statistical Abstract, Zhongguo tongji zhaiyao)* in May.²⁶ The comprehensive *Statistical Yearbook* then follows in fall, typically with a September publication date and availability sometime in October. The *Statistical Yearbook 2012* comprises 25 sections on topics ranging from the NIPA (primarily GDP-related data) to investment, prices, and culture/sports/public health.²⁷

The first Chinese language issue of the *Statistical Yearbook* series is of 1981 (with “1981” in the title), reporting data through 1981. Starting with the subsequent issue, the year in the title is one year ahead of the data reported; thus, the second Chinese language issue is labeled “1983” and reports data through 1982. The *Statistical Yearbook* has been bilingual since the 1994 edition. Separate English editions (*Statistical Yearbook of China*) appear to have been published parallel to the Chinese editions for 1981 through 1993. Since the 1996 issue, the *Statistical Yearbook* comes with an introductory passage to each of its sections where data and data sources are explained. Definitions of variables are appended at the end of each section.

The data coverage of the *Statistical Yearbook* focuses on the previous year, with occasionally data reported for some or all years since 1978. In the case of GDP, the *Statistical Yearbook* series usually offers one revision of annual GDP data. Thus, each issue of the *Statistical Yearbook* contains “first confirmed” GDP data for the most recent year and revised (“second confirmed”) GDP data for the second-most recent year.²⁸

The NBS publishes a number of statistical yearbooks on specialized topics. A list of such yearbooks follows below, with all dates, here and below, referring to the date in the title of the book (which may not be the publication date, but often is), and XXXX/YYYY in this section referring to one yearbook with a period XXXX through YYYY in the title.²⁹ Those statistical yearbooks that have been referenced earlier in this article with an abbreviated title are included in the list below as well as in the bibliography at the end of the article.

- *China Agricultural Product Price Survey Yearbook (Zhongguo nongchanpin jiage diaocha nianjian)*; published annually since 2004.
- *China and Urban Living and Price Yearbook (Zhongguo ji chengshi (zhen) shenghuo yu wujia nianjian)*; published annually since 2006, bilingual. Successor to the *China Price and Urban Citizen and Household Income/Expenditure Survey Statistical Yearbook* and to the *China Price Statistical Yearbook*.

- *China Basic Statistical Unit Statistical Yearbook (Zhongguo jiben danwei tongji nianjian)*; published annually since 1999.
- *China City Statistical Yearbook (Zhongguo chengshi tongji nianjian)*; published annually since 1985, with a combined 1993/1994 volume. Separate English volumes (*China Urban Statistics*) for each year 1985-88 (and possibly through 1990).
- *China Commodity Trade Market Statistical Yearbook (Zhongguo shangpin jiaoyi shichang tongji nianjian)*; published annually since 2001, with as title of the 2003 volume *China Commodity Trade Market Yearbook (Zhongguo shangpin jiaoyi shichang nianjian)*.
- *China Construction Statistical Yearbook (Zhongguo jianzhuye tongji nianjian)*; published annually since 1996. The predecessor is *China Construction Statistical Material (Zhongguo jianzhuye tongji ziliao)*, published for 1952/85, 1986/87, 1988/89, and 1990/91.
- *China County [City] Social and Economic Statistical Yearbook (Zhongguo xian [shi] shehui jingji tongji nianjian)*; published annually since 2000 (in 2000 labeled *Outline (gaiyao)*, rather than *Yearbook*).
- *China Energy Statistical Yearbook (Zhongguo nengyuan tongji nianjian)*; issues of 1986, 1989, 1991, 1991/1996, 1997/1999, 2000/2002, and then annually since 2004, bilingual since the 1991/1996 issue.
- *China Foreign Economy Statistical Yearbook (Zhongguo duiwai jingji tongji nianjian)*; issues of 1994 (with data for 1990-1993), 1996, and then annually starting 1998, bilingual. The successor is the *China Trade and Foreign Economy Statistical Yearbook*.
- *China Industrial Economy Statistical Yearbook (Zhongguo gongye jingji tongji nianjian)*, here abbreviated *Industrial Yearbook*; issues of (in the title) 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1998, 2001, 2002, 2003, 2004, and then annually since 2006. Some issues carry detailed data of two previous years (rather than only one). The

predecessor is the *China Industrial Statistical Material (Zhongguo gongye jingji tongji ziliao)*, with issues of 1949/1984, 1986, and 1987.

- *China Investment in Fixed Assets Yearbook (Zhongguo guding zichan touzi tongji nianjian)*; issues of 1950/95, 1997, 1998, 1999, and then annually since 2003. The predecessor is the *China Investment in Fixed Assets Statistical Material (Zhongguo guding zichan touzi tongji ziliao)*, with issues of 1950/1985, 1986/1987, 1988/1989, and 1990/1991.
- *China Labor Statistical Yearbook (Zhongguo laodong tongji nianjian)*; published annually since 1991, bilingual since 1995. A 1989 and a 1990 issue are available as *China Labor and Wage Statistical Yearbook (Zhongguo laodong gongzi tongji nianjian)*.
- *China Market Statistical Yearbook (Zhongguo shichang tongji nianjian)*; published annually between 1993 and 2004. The successor is the *China Trade and Foreign Economy Statistical Yearbook*.
- *China Markets Yearbook (Zhongguo shichang nianjian)*; published in 1999 (1996 data), 2000 (1998 data), 2001 (2000 data), 2003 (2001 data), 2004 (2002 data), 2005 (2003 data), and 2006 (2004 data), bilingual. Discontinued with the 2006 volume. The predecessor is the *China Industrial Markets Yearbook*, bilingual; it was published in 1997 with 1995 data. The *China (/Industrial) Markets Yearbook* reports NBS industry data through changing (non-NBS) outlets. The yearbook contains detailed four-digit sectoral data for selected variables on approximately 500 industrial sectors, including a list of the ten largest enterprises in each sector, and including an incomplete ownership breakdown.³⁰
- *China Population Statistical Yearbook (Zhongguo renkou tongji nianjian)*; published annually since 1988, bilingual since 1996.
- *China Price and Urban Citizen and Household Income/Expenditure Survey Statistical Yearbook (Zhongguo jiage ji chengzhen jumin jiating shouzhi diaocha tongji nianjian)*; published annually between 2000 and 2005; the successor is the *China and Urban Living*

and Price Yearbook. The predecessor is the *China Commodity Price and Urban Citizen and Household Income/Expenditure Survey Statistical Yearbook* (*Zhongguo wujia ji chengzhen jumin jiating shouzhi diaocha tongji nianjian*) with issues of 1996, 1997, 1998, and 1999, itself preceded by the *China Urban Citizen and Household Income/Expenditure Survey Material* (*Zhongguo chengzhen jumin jiating shouzhi diaocha ziliao*) with issues of 1988, 1989, 1990, 1991, and 1994.

- *China Price Statistical Yearbook* (*Zhongguo wujia tongji nianjian*); published in 1988, 1989, 1990, 1991, 1992, and 1994. The successor is the *China and Urban Living and Price Yearbook*.
- *China Real Estate Statistical Yearbook* (*Zhongguo fangdichan tongji nianjian*); published annually since 1999, with combined volumes 2002/2003 and 2005/2006, bilingual.
- *China Regional Economy Statistical Yearbook* (*Zhongguo quyu jingji tongji nianjian*); published annually since 2000, bilingual.
- *China Rural Household Survey Yearbook* (*Zhongguo nongcun zhuhu diaocha nianjian*); published in 1992, and then annually since 2000.
- *China Rural Statistical Yearbook* (*Zhongguo nongcun tongji nianjian*); published annually since 1985.
- *China Science and Technology Statistical Yearbook* (*Zhongguo keji tongji nianjian*); published annually since 1991, bilingual since 1998.
- *China Trade and Foreign Economy Statistical Yearbook* (*Zhongguo maoyi waijing tongji nianjian*); published annually since 2006, bilingual. Successor to the *China Foreign Economy Statistical Yearbook* and to the *China Market Statistical Yearbook*.
- *Compendium of Nationwide Agricultural Product Cost and Income Material* (*Quanguo nongchanpin chengben shouyi ziliao huibian*); published annually since 2002. Two summary volumes for 1953-1997 were published not by the NBS but by the *China Price Publishing House* (*Zhongguo wujia chubanshe*), in 2003, with a title *Compendium of*

Nationwide Major Agricultural Product Cost and Income Material Since the Foundation of the Country, 1953-1997 (Jianguo yilai quanguo zhuyao nongchanpin chengben shouyi ziliao huibian 1953-1997).

- *International Statistical Yearbook (Guoji tongji nianjian)*; published annually since 1995, bilingual since 2002.

Several statistical yearbooks were initiated in 2006. These include the bilingual *China Environment Statistical Yearbook (Zhongguo huanjing tongji nianjian)*, the *Chinese Society Statistical Yearbook (Zhongguo shehui tongji nianjian)*, the *Industrial Enterprise Science and Technology Activities Statistical Material (Gongye qiye keji huodong tongji ziliao)*, and the *China Tertiary Sector Statistical Yearbook (Zhongguo disan chanye tongji nianjian)*. The first issue of the bilingual *China Population and Employment Statistical Yearbook (Zhongguo renkou he jiuye tongji nianjian)* appeared in 2007.

Other central government departments also publish statistical yearbooks. Sometimes the particular government department itself publishes the book; at other times a special “editorial committee” is set up with no explicit link to a government department. Such statistical yearbooks include:

- *China Agricultural Statistical Material (Zhongguo nongye tongji ziliao)*; published annually since 1987 by the Agriculture Ministry.
- *China Civil Affairs Statistical Yearbook (Zhongguo minzheng tongji nianjian)*; published annually since 1990 by the Civil Affairs Ministry.
- *China Culture and Cultural Relics Statistical Yearbook (Zhongguo wenhua wenwu tongji nianjian)*; published annually since 1997 by the Culture Ministry.
- *China Economic Yearbook (Zhongguo jingji nianjian)*; published annually since 1981 (by an identically named publishing company).

- *China Education Cost Statistical Yearbook (Zhongguo jiaoyu jingfei tongji nianjian)*; published annually since 1996 by the Education Ministry.
- *China Education Statistical Yearbook (Zhongguo jiaoyu tongji nianjian)*; issues of 1987, 1989, 1990, 1991/1992, and then annually since 1998; bilingual since approximately 1989; published as *China Education Facilities Statistical Yearbook (Zhongguo jiaoyu shiye tongji nianjian)* with annual issues of 1992 through 1997, bilingual. A separate volume *China Education Yearbook (Zhongguo jiaoyu nianjian)* exists with issues of 1949/1981, 1982/1984, 1985/1986, and then for every year since 1988. Published by the Education Ministry.
- *China Labor Union Statistical Yearbook (Zhongguo gonghui tongji nianjian)*; published annually since 1993 by the All-China Labor Federation, with a combined 1995/1996 volume, bilingual since 2000.
- *China Land and Natural Resources Statistical Yearbook (Zhongguo guotu ziyuan tongji nianjian)*; published annually since 2005 by the PRC Land and Natural Resource Ministry.
- *China Rural Finance Statistical Yearbook (Zhongguo nongcun jinrong tongji nianjian)*; published annually between 1991 and 1996 by the Agricultural Bank of China, with a separate compendium *China Rural Finance Statistical Yearbook 1979-1989 (Zhongguo nongcun jinrong tongji 1979-1989)*.
- *China Securities and Futures Statistical Yearbook (Zhongguo zhengquan qihuo tongji nianjian)*; published annually since 1996, bilingual.
- *China Tourism Statistical Yearbook (Zhongguo lüyou tongji nianjian)*; published annually since 1985 by the PRC State Tourism Bureau, bilingual (at least since 1992), with supplement (Chinese only).
- *China Urban Construction Statistical Annual Report (Zhongguo chengshi jianshe tongji nianbao)*, published for 1997/1998, 1999/2000, and then annually since 2001.³¹ The

predecessor is the *China Urban Construction Yearbook* (*Zhongguo chengshi jianshe nianjian*), published for 1986/1987 and 1988/1989.

- *PRC Customs Statistical Yearbook* (*Zhonghua renmin gongheguo haiguan tongji nianjian*); published annually since 1990 by the PRC Customs Administration (with the 1990 title *China Customs Statistical Yearbook, Zhongguo haiguan tongji nianjian*). Separate annual volumes in English under the title *China Customs Statistics Yearbook*.
- *TVE Yearbook* (*China Township [and Village] Enterprise Yearbook, Zhongguo xiangzhen qiye nianjian*); published annually since 1989 by the Agriculture Ministry, with one compendium for 1978/1987.
- *Urban Water Supply Statistical Yearbook* (*Chengshi gongshui tongji nianjian*); published in 1986, 1999, and 2006 (and perhaps for other years) by the China Urban Water Supply Association.

Statistical yearbooks are published for numerous sectors of the economy, ranging from coal to cotton. They are usually published by some enterprise association of that sector or some overarching government department or conglomerate. They tend to be in Chinese only.

One example is the banking sector. Each (state-owned) commercial bank publishes its own statistical yearbook series. Early issues were stamped “internal” (*neibu*). More recent issues may no longer come with such a stamp but are often de facto internal publications; they may carry an ISBN number but not be available for sale to the public. Provincial central bank branches (now regional central bank branches) used to publish their own provincial statistical yearbooks on all commercial banking in their province/region, and these volumes are not publicly available.

General yearbooks published by government departments or associations often contain content (including statistics) that is of interest to economists.³² Of particular interest are the following three yearbooks:

- *China Finance Yearbook (Zhongguo jinrong nianjian)*; published annually since 1986. Separate (severely abbreviated) English editions are available as *Almanac of China's Finance and Banking* for, at least, 1991, 1995, 1996, and then for every year since 1998 (and possibly for every year since 1990).
- *China Fiscal Yearbook (Zhongguo caizheng nianjian)*; published annually since 1992 with a bilingual statistics section since 2002.
- *China Price Yearbook (Zhongguo wujia nianjian)*; published annually since 1989, with a 2001/2002 combined volume.

Beyond explicitly *statistical* yearbooks and beyond general yearbooks with significant statistics sections, a wide range of “reports,” “development reports,” “blue books,” and “white books” are published annually, some of these by the NBS.³³ The focus is on a specific theme with statistics only offered as supporting documentation.

3.1.2 Monthly and quarterly data

The NBS has been publishing monthly data in a series of magazines. These are:

- *China Statistics Monthly (Zhongguo tongji yuebao)*; published (at least) July 1985 through end-1989, in Chinese only.
- *China Statistics Monthly*; published April 1988 (vol. 1, issue 1) through Jan/Feb/March 1992 (vol. 4, issues 10-11-12), in English.
- *China Monthly Statistics*; published since 1992, in English.

In addition, since September 2000 the NBS has been publishing *China Monthly Economic Indicators (Zhongguo jingji jingqi yuebao)*, a bilingual publication that focuses on economic data.³⁴

Some monthly data are available on the NBS website (<http://www.stats.gov.cn>), as are quarterly data. The NBS does not have a quarterly statistical print publication. However, it occasionally publishes quarterly GDP data in the form of small booklets (*Quarterly GDP 1992-2001*, *Quarterly GDP 1992-2005*).

The People's Bank of China publishes monthly (and for some series quarterly) data in the bilingual *People's Bank of China Quarterly Statistical Bulletin* (*Zhongguo renmin yinhang tongji jibao*), starting 1996. While this publication focuses on financial variables, it also covers a few other variables such as output measures, and in contrast to the NBS publications typically reports values for several months in each issue. The Customs General Administration publishes *China's Customs Statistics*, with quarterly data from June 1983 through 1992 (bilingual in 1985-89, in English starting August 1989 or January 1990), and monthly data (in English) since 1993.

3.1.3 Census and survey data, input-output tables

The NBS has published numerous individual publications in response to specific events, typically a census or survey. All of these publications are in Chinese. Recent (abbreviated) titles include:

- *Agricultural Census 1996*.
- *Agricultural Census 2006*.
- *Economic Census 2004*. Four volumes.
- *Economic Census 2008*. Five volumes.
- *Industrial Census 1985*.
- *Industrial Census 1995*. Three volumes.
- *Population Census 1982*.
- *Population Census 1990*. Four volumes.
- *Population Census 2000*. Three volumes.

- *Population Census 2010*. Three volumes.
- *Population Survey 1987*.
- *Population Survey 1995*.
- *Population Survey 2005*.
- *Tertiary Sector Census 1993*.
- *Input-Output Table 1987*, and, separately, *1990, 1992, 1995, 1997, 2002, and 2007*.

Similar volumes are usually published at the provincial level by each province's statistics department; those focusing on input-output tables tend to be considered internal publications. At the national level, additional, more elaborate publications exist internally for some censuses, such as the industrial census in 1985.

NBS survey data are not available to the public. On an individual basis, researchers have negotiated the purchase of data from the NBS, or obtained data through personal connections. This includes, with data for one or more years, the complete set of (individual) enterprise-level data for the DRIEs, datasets on large and medium-sized industrial enterprises (a subset of the DRIEs),³⁵ and population census data.³⁶ The Universities Service Center—the leading China library, located at the Chinese University of Hong Kong—sells a number of datasets, compiled not only by the NBS.³⁷ The China Data Center at the University of Michigan sells some NBS census data.³⁸

Data from a number of other surveys are publicly available. These include the China Household Income Project (CHIP) survey conducted by the Institute of Economics at the Chinese Academy of Social Sciences,³⁹ and the China Health and Retirement Longitudinal Study (CHARLS) conducted by the National School of Development at the China Center for Economic Research at Peking University.⁴⁰

3.1.4 Long-run data

In irregular intervals, the NBS publishes compendia that cover a limited set of indicators at the national and provincial levels over an extended period of time. These include:

- *China's Regional Economy in Seventeen Years of Reform and Opening (Gaige kaifang shiqi nian de zhongguo diqu jingji)*, here abbreviated *Seventeen Years of Reform*. Bilingual. Covers the years 1978 through 1995.
- *Comprehensive Statistical Materials on 50 Years of the New China (Xin zhongguo wushi nian tongji ziliao huibian)*, here abbreviated *Fifty Years*. Bilingual. Covers the years 1949/1952 through 1998.
- *Comprehensive Statistical Materials on 55 Years of the New China (Xin zhongguo wushiwu nian tongji ziliao huibian)*, here abbreviated *Fifty-five Years*. Bilingual. Covers the years 1949/1952 through 2004.
- *Comprehensive Statistical Materials on 60 Years of the New China (Xin zhongguo liushi nian tongji ziliao huibian)*, here abbreviated *Sixty Years*. Bilingual. Covers the years 1949/1952 through 2008.

For NIPA data, the most recently published volume (*Sixty Years*) is preferable to the earlier volumes as it incorporates the 2006 benchmark revision to GDP data following the 2004 economic census.

At the provincial level, the data from Guangdong and Hainan, and from Sichuan and Chongqing often require special attention. Hainan was part of Guangdong until it became a separate province in April 1988. The *Statistical Yearbook 1989* with data for 1988 reports Hainan data separately for the first time. All four long-run compendia report Guangdong and Hainan data separately. Chongqing was part of Sichuan until it became a separate province in 1997. The *Statistical Yearbook 1998* with data for 1997 reports Chongqing data separately for

the first time. In *Seventeen Years of Reform*, Sichuan includes Chongqing in all years; no separate data on Chongqing are included. The *Fifty Years*, *Fifty-five Years*, and *Sixty Years* compendia report Sichuan and Chongqing data separately.⁴¹

The NBS has published a number of special publications with GDP data. The first is a retrospective compilation of NIPA data following the System of National Accounts for the pre-reform period and through 1995. The Chinese version is *GDP 1952-95 (Historical Data on China's Gross Domestic Product 1952-1995, Zhongguo guonei shengchan zongzhi hesuan lishi ziliao 1952-1995)*, followed by, with one extra year, *GDP 1952-96* (abbreviated title). The English version was published by Hsueh Tien-tung and Li Qiang (1999).⁴² These compilations cover sectoral value-added in the production approach to the calculation of GDP, as well as expenditure data at the national level and at the provincial level, and income data at the provincial level only. The data reflect the benchmark revision following the 1993 tertiary sector census, except in the case of Guangdong, whose data are unadjusted data, i.e., they do not incorporate this benchmark revision (*GDP 1952-95*, preface).

The bilingual *GDP 1996-2002* provides data for the subsequent years 1996-2002. It also reproduces and, for some provinces, revises data for 1952, 1978, 1985, 1990, and 1990 (with the coverage not always complete). The *National Income Accounts Yearbook 2004* is a one-off publication with national GDP data for 2000-2003 as well as a variety of other NIPA data.

The bilingual *GDP 1952-2004*, with data for 1952-2004, incorporates the 2006 benchmark revision following the economic census of 2004. The national data cover 1952-2004 and the provincial data 1993-2004. Since the publication of *GDP 1952-2004*, no further volume on NIPA data has been published. Many of the data series are included in *Sixty Years* and in the annual *Statistical Yearbook*.

Other publications related to the NIPA include two volumes on flow-of-funds statistics: *Flow of Funds 1998-2002* (bilingual) and *Flow of Funds 1992-2004* (bilingual). The first reports both national and provincial data; the second reports national data only. More recent national flow of

funds data are reported annually in the *Statistical Yearbook*, though typically with a 2-year time lag.

Besides the comprehensive historical data and the detailed GDP data, the NBS occasionally publishes historical data on a specific topic. Such publications include, with detailed titles provided in the references: *Industry, Transport, and Energy 50 Years* (covering 1949-1999), *Investment 1950-2000* (bilingual), *Population Statistics 1949-1985*, and *Agriculture 1949-2004*.

3.2 Explanations of Chinese data

Explanations of Chinese statistics can be found in a number of NBS publications. These range from compendia of rules and regulations to explanations of Chinese statistics offered by NBS staff, usually in Chinese. The explanations are not always sufficient and a research literature has developed, mainly in English, to examine Chinese data.

3.2.1 NBS publications and publications by NBS staff

Each section of the *Statistical Yearbook* comes with an introduction that explains how the data were obtained and ends with definitions of the variables used in the section. (Both, introduction and definitions are bilingual in the bilingual issues of the *Statistical Yearbook*.) Other statistical yearbooks often contain variable definitions, with occasionally some further explanations in a preface.

The NBS regularly publishes compendia of rules and regulations (NBS 1988, 1992, 1995, 1996, 2001a, 2004). Some of these compendia offer insights into how specific data are being compiled. The last two volumes no longer carry the stamp “internal” but are still not publicly available. Since 2004, either no further issues have been published, or none has found its way to locations accessible to researchers.

In 1992, 1993, 1995, 1996, 1997, and 1998 the NBS also published an internal *Statistical Work Yearbook* with details on statistical work and reform of the statistical system in the

particular year. It contained a section on rules and regulations issued in that year. Similar to the compendia of rules and regulations, since 1998 either no further issues have been published, none has found its way to locations accessible to researchers.

The compilation of GDP data is explained in great detail in NBS (1997), Xu Xianchun (2000b), OECD (2000), and NBS (2007). The English language OECD (2000) was largely written by Xu Xianchun and Ye Yanfei, both NBS employees. Xu Xianchun (2004) provides a brief overview in English. NBS publications on GDP compilation include NBS (1997) and NBS (2007), in Chinese; NBS (2007) incorporates the changes in the calculation of GDP introduced in the wake of the 2004 economic census.

The NBS also publishes a number of specialized volumes that deal with data compilation in particular sectors. For example, NBS Industry and Transport Division (1999) explains the compilation of industry statistics and NBS (2003) explains China's statistical survey system. NBS Industry and Transport Division (2003) provides details on the (then) new classification system (GB2002) for the industry sector. The NBS monthly magazine *Zhongguo tongji* frequently explains changes to current statistical compilation practices.

3.2.2 Research literature

Since the mid-1990s, researchers have routinely explored the meaning of specific official Chinese data. The large and growing body of literature in English covers every area of Chinese statistics from agricultural labor force data to alternative real growth rates of industry. The following is a list of some of the literature, by topic. If a source covers more than one topic, it is listed under what appears to be the most relevant topic. Complete references are provided in the reference list at the end of the book.

- Agriculture: Kenneth Walker (1982), Cao Qingbo (1999).
- Agricultural land and irrigation: James Nickum (1995), Vaclav Smil (1999).

- Alternative industry/GDP growth estimates: Harry Wu (1993, 2002), Angus Maddison (1998), Carsten Holz (2006a,b).
- Capital: Chen Kuan et al. (1988), Carsten Holz (2006c,d), Gregory Chow (2006a).
- Data sources: Carsten Herrmann-Pillath, Daniel Kirchert and Pan Jiancheng (2002), Susan Xue (2004).
- Employment, unemployment, and migration data: Thomas Rawski and Robert Mead (1998), Dorothy Solinger (2001, 2002), Liu Ta and Chan Kam Wing (2001), Thomas Rawski (2002a), Daniel Goodkind and Loraine West (2002), John Giles, Albert Park, and Zhang Juwei (2005), Cai Fang (2004), John Knight and Xue Jinjun (2006), Shi Zhenhua (2009).
- Energy statistics: Jeffrey Logan (2001), Jonathan Sinton (2001), Jonathan Sinton and David Fridley (2000, 2002).
- Evaluation of Chinese GDP and GDP growth estimates (occasionally including other variables besides GDP): F. Gerard Adams and Chen Yimin (1996), Harry Wu (2000, 2007), Meng Lian and Wang Xiaolu (2000), Thomas Rawski and Xiao Wei (2001), Wang Xiaolu and Meng Lian (2001), Thomas Rawski (2001a, 2001b, 2002b), Albert Keidel (2001b), Oleksandr Movshuk (2002), Lawrence Klein and Suleyman Ozmucur (2002-2003), Nicholas Lardy (2002-2003), Pan Zhenwen and An Yuli (2003), Friedrich Wu (2003), Carsten Holz (2003, 2004a, 2006a, 2006b, 2008a, 2008b), Angus Maddison (2006), Gregory Chow (2006b); in Chinese: Xu Xianchun and Tian Xiaoqing (1997), Xu Xianchun (1999a,b,c, 2000a, 2001, 2002, 2003, 2006), Yue Ximing and Zhang Shuguang (2002), Song Xiaochuan (2007), Aaron Mehrotra and Jenni Pääkkönen (2011), Masahi Hoshino (2011).
- Evaluation of early PRC statistics: Choh-Ming Li (1962), Yoshiro Matsuda (1965), Dwight Perkins (1966), R. P. Sinha (1975), Thomas Rawski (1976), S. Lee Travers (1982), Eduard Vermeer (1986), Gregory Chow (1986), Yoshiro Matsuda (1990).

- General description of Chinese statistics, definitions (in Chinese except where noted): Deng Liqun et al. (1990), *Statistics Manual* (1990), Zheng Jiexiang (1994), *Economics Dictionary: Statistics* (1996), Liu Chengxiang, Liu Ke, and Jin Zhaofeng (2000), Zheng Jingping (2001, English).
- History of official statistics in China (in Chinese): Deng Liqun et al. (1990), Li Huicun and Mo Yueda (1993).
- Household income surveys: World Bank (1992, Appendix 1), Chen Shaohua and Martin Ravallion (1996), Martin Ravallion and Chen Shaohua (1999), Chris Bramall (2001), John Gibson, Huang Jikun, and Scott Rozelle (2001).
- Industry statistics: Carsten Holz and Yi-min Lin (2001a, 2001b), Calla Wiemer and Tian Xiuhua (2001).
- Population statistics: Ansley Coale (1981), Thomas Scharping (2001, 2003, 2005a, 2005b, 2005c), Kam Wing Chan (2003), Zhou Yixing and Laurence Ma (2005), Kam Wing Chan and Man Wang (2008), Li Shuozhu, Zhang Yexia, and Marcus Feldman (2010).
- Poverty statistics: Albert Park and Wang Sanguai (2001).
- Prices: Imad Moosa (1997), D. Gale Johnson (2002), Loren Brandt and Carsten Holz (2006).
- Private enterprises: Ole Odgaard (1990-1991).
- Survey research in China: Tang Wenfang (2002/2003).
- Statistical system (including coverage in one article of a wide variety of statistics): Huang Yasheng (1996), Sean Dougherty (1997), OECD (2000), Cai Yongshun (2000), Albert Keidel (2001a), Carsten Herrmann-Pillath, Daniel Kirchert and Pan Jiancheng (2002), Carsten Holz (2002, 2004b, 2005a), Susan Xue (2004), Gregory Chow (2006b), Xu Xianchun (2009).
- Trade statistics (historical data): Thomas Lyons (2003), Andrea Eberhard-Bréard (2006), Robert Bickers (2006).

- Transport statistics: Ralph Huenemann (2001).
- Urbanization: Kam Wing Chan and Hu Ying (2003), Kam Wing Chan (2007).

A 2012 book by Tom Orlik on *Understanding China's Economic Indicators* describes key Chinese statistics (indicators, variables) ranging from GDP to financial indicators. Each section covers one indicator, or one set of indicators, and includes an explanation of the degree of market sensitivity, what the indicator is, where the Chinese and English data are released on the internet, when they are released, how frequently they are released, who produces the data, if the data are revised or not, why they are important, how they are calculated, how to interpret them, and what impact they have on the market.

4. CONCLUSION

While China is gradually adopting international standards in the compilation of its statistics—such as the United Nation's System of National Accounts in the compilation of NIPA statistics—a number of data issues remain specific to China. If one is not aware of the changing sectoral classification system over time, one runs the danger of combining non-compatible time series from different sources into one time series. Alternatively, one is unable to conduct long-run analysis when, in fact, a particular series does not change much across classification changes despite the adoption of new labels. Analysis that focuses on ownership runs the danger of severely under-estimating the state sector if only data on “state-owned enterprises” are included, or of combining non-compatible time series if the 1998 statistical break is not given consideration. Conclusions drawn from work with industrial data run the danger of ignoring that the available data cover only a subset of industry and may not be representative of all industry, and that the data series come with a number of re-definitions in enterprise coverage over time that make time series analysis difficult.

Despite such data complications, economic analysis based on Chinese data faces a bright future because of the abundance of statistics published by China's statistical authority and Chinese government departments. The availability of data for China far exceeds what one might expect for a developing country at China's level of development. Once one is aware of the manifold data sources and what the data mean, the field of statistics-based research on China is wide open.

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Table 1 Consistency of Sectoral Definition between Sectoral Classification Systems

Transition from: Transition to:	Pre-1984 cl. sys. GB1984	GB1984 GB1994	GB1994 GB2002	GB2002 GB2011
Three main economic sectors	‘agricultural (and water conservancy) services’ newly included in primary sector	‘water conservancy’ moves from primary to tertiary sector	relocation of sub-sectors across and within all three main economic sectors	unchanged
Within primary sector	‘agricultural (and water conservancy) services’ newly included in primary sector	‘water conservancy’ moves from primary to tertiary sector		
Within secondary sector	disaggregation, relabeling	changes to some categories	minor relabeling/ reclassification	changes to some categories
Within tertiary sector	unclear: possibly loss of ‘agricultural (and water conservancy) services’	relabeling and reclassification; newly includes ‘water conservancy’	disaggregation, relabeling and reclassification	relabeling and reclassification

Table 2. Industrial Enterprise Ownership Classification: Prior to and Since 1998

Classification prior to 1998	Data 1995				Notes	Classification since 1998	Data 2004				
	Number of enterprises		Employment (%)				Number of enterprises		Employment (%)		
	All	DRIE	All	DRIE			All	DRIE	All	DRIE	
Total	7341517	510381	100.0	100.0		Total	1375263	276474	100.0	100.0	
						100 Domestic enterprises	1269098	219309	78.6	73.5	
1 State-owned economy	118000	87905	31.6	52.1							
11a Unreformed SOEs						110 SOEs	25339	23417	9.6	13.3	
11b Solely state-invested LLC						new 151					
12 State-owned joint operations						new 141					
2 Collective-owned economy	1465628	363840	39.8	36.0							
21a COEs						120 COEs	141772	18095	7.4	5.1	
21b Employee stock. coop.						new 130					
22 Collective-owned joint oper.						new 142					
						prev. 21	130 Employee stock coop.	50097	8215	2.2	1.8
5 Joint operation economy	5903	5493	0.6	1.0							
						140 Joint operation enterpr.	6547	1439	0.5	0.4	
						prev. 12	141 State-owned	756	278	0.1	0.1
						prev. 22	142 Collective-owned	2924	395	0.2	0.1
51 State-/coll.-owned j.o. ent.							143 State-/coll.-owned	1064	427	0.1	0.1
52 State-owned/private j.o. ent.						into 149	149 Others	1803	339	0.1	0.1
53 Coll.-owned, private j.o. ent.						into 149					
54 State/coll./private j.o. ent.						into 149					
6 Shareholding economy	5873	5559	1.7	3.0							
62 Limited liability companies						150 Limited liability comp.	102392	41234	18.2	22.8	
						prev. 11	151 Solely state-invested	2083	1449	4.0	5.5
							159 Others	100309	39785	14.2	17.2
61 Stock companies						160 Stock companies	17427	7171	5.4	7.1	
3 Private economy	287483	2708	3.3	0.2		170 Private enterprises	902647	119357	34.7	22.9	
31 Private sole proprietorships						171 Private sole propr.	459709	26525	12.2	3.9	
32 Private partnerships						172 Private partnerships	92023	6049	2.9	0.9	
33 Private LLC						173 Private LLC	327629	82078	18.2	16.8	
						new	174 Private stock comp.	23286	4705	1.3	1.2

<i>9 Other economy</i>				190 Other enterprises	22877	381	0.6	0.1		
4 Individual-owned economy				dropped						
8 HKMT-invested enterprises				26601	4.5	200 HKMT-invested ent.	54910	28399	11.2	13.5
81	Joint equity ventures	16415	2.9	210	Joint equity vent.	16745	10694	3.3	4.3	
82	Contractual joint vent.	3277	0.6	220	Contractual joint v.	3473	1863	0.7	0.9	
83	Wholly HKMT-owned	6909	1.0	230	Wholly HKMT-own.	34104	15541	6.9	8.0	
			new	240	HKMT stock comp.	588	301	0.2	0.3	
7 Foreign-invested enterpr.				17692	3.2	300 Foreign-invested ent.	51255	28766	10.2	13.0
71	Chinese-foreign JEVs	12853	2.4	310	Chinese-for. JEVs	21420	12930	4.1	5.3	
72	Chinese-foreign CJVs	1598	0.3	320	Chinese-for. CJVs	2818	1711	0.6	0.7	
73	Wholly foreign-owned	3241	0.6	330	Wholly foreign-own.	26335	13758	5.3	6.6	
			new	340	Foreign-inv. stock c.	682	367	0.3	0.4	
	“Others”	942	583	0.1	0.1					
	Individual-owned “enterpr.”	5403643		17.5						
	HKMT-/foreign-inv. ent.	54045		5.5						

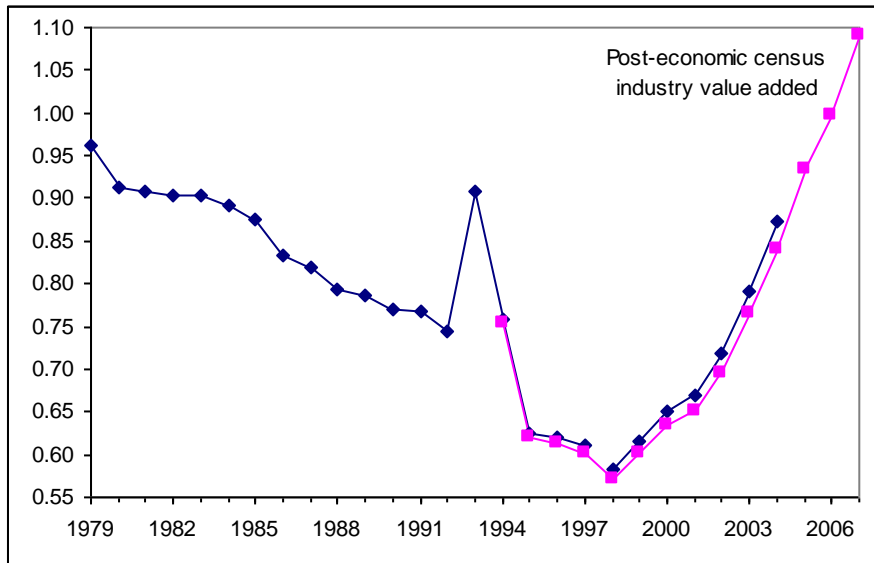
Abbreviations: SOEs: state-owned enterprises; LLC: limited liability companies; COEs: collective-owned enterprises; Employee stock. coops: employee stockholding cooperatives; HKMT: Hong Kong, Macau, and Taiwan; JEV: joint equity venture; CJV: contractual joint venture.

“Individual-owned economy” (item 4) comprises the self-employed in industry (*chengxiang geti gongshang hu*) and partnerships between individuals (*geren hehuo*). The self-employed in industry and partnerships between individuals (“individual-owned economy” before 1998) are not regarded as registered enterprises and not included in the classification since 1998.

Foreign-invested enterprises exclude HKMT-invested enterprises.

Employment values: 1995 / 2004: all industrial enterprises: 147.3551m / 93.0394m, DRIEs 85.7558m / 66.2209m.

Sources: Classification adapted from NBS Industry and Transport Division (1999), p. 11, and from Carsten Holz and Yi-min Lin (2001, pp. 40f.). Data: 1995: *Industrial Census 1995*, Vol. 1, p. 1 (on “all industrial enterprises”), pp. 46 and 198. 2004; *Economic Census 2004*, first volume on the secondary sector, pp. 2 and 7 (on “all industrial enterprises”), pp. 10 and 101.

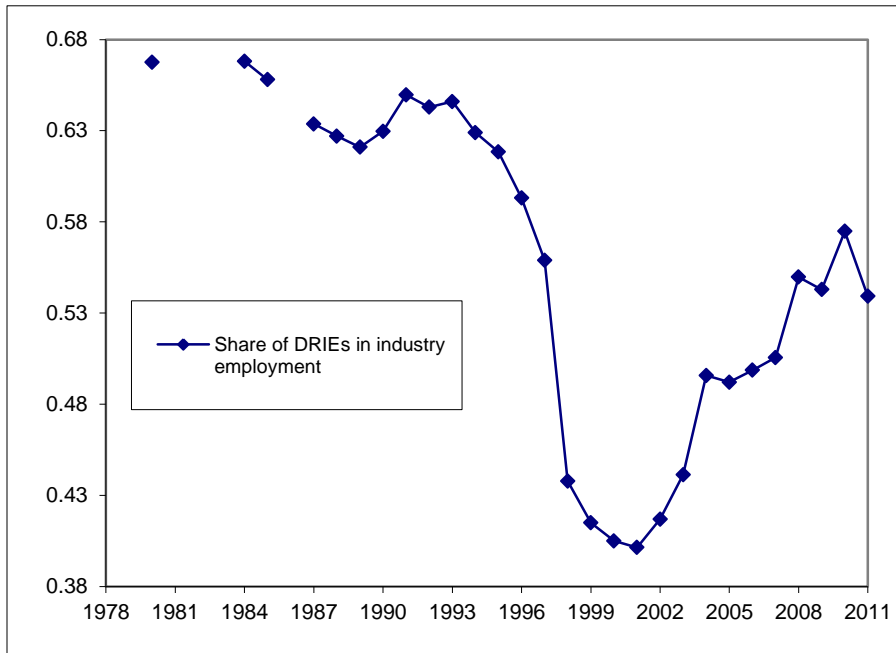


Data on value-added of the DRIEs for the years prior to 1992 are not available. For 1980 and 1982-1991, the ratio of industry value-added to industry net material product is applied to the net material product values of the DRIEs. For the years 1979 and 1981, when DRIE net material product values are not available, DRIE value-added is derived based on the ratio of DRIE GOV to constructed DRIE value-added in 1980 and 1982; for 1979 and 1981, the ratios of 1980 and 1982 are linearly interpolated and then multiplied with the 1979 and 1981 DRIE GOV values. (A 1978 DRIE GOV value is not available.) Linear interpolation is justified by the trend in the ratio during the period 1980 and 1982 through the 1990s. Value-added of the DRIEs is not revised following the 2004 economic census (the *Statistical Yearbook 2008*, p. 492, reports values for 1998-2004 that are unchanged from the previously published ones).

The chart uses two sets of data for industry value-added in the NIPA: the first set was published just before the results of the 2004 economic census were incorporated into the NIPA, the second set is based on the (since 1993) following the 2004 economic census retrospectively revised industry value-added. Since industry value-added in the NIPA was revised upward, the share of DRIEs in the revised NIPA values is lower than in the pre-revision values; i.e., the lower line (since 1993) in the chart is based on post-economic census 2004 retrospectively revised industry value-added in the NIPA. The data on DRIE value-added end in 2007.

Sources: Industry value-added: pre-economic census: *Statistical Yearbook 2005*, p. 51; post-economic census: *Statistical Yearbook 2008*, p. 37. Industry net material product (1978-1992): *Statistical Yearbook 1993*, p. 33. DRIE value-added: *Statistical Yearbook 1993*, p. 417, 1994, p. 378, 1995, p. 388, 1996, p. 414, 1997, p. 424, 1998, p. 444, 1999, p. 432, 2000, p. 414, 2001, p. 410, 2002, p. 432, 2003, p. 468, 2005, p. 488, 2007, p. 508, 2008, p. 492. DRIE net material product (1980, 1982-1992): *Statistical Yearbook 1984*, p. 216, 1986, p. 278, 1987, p. 263, 1988, p. 320, 1989, p. 292, 1990, p. 419, 1991, p. 399, 1992, p. 411, 1993, p. 417, *Industrial Yearbook 1986*, p. 21; DRIE GOV (1980, 1982-1992): *Seventeen Years*, p. 146.

Figure 1. DRIE Share in Value-Added of Industry



All values are mid-year values.

Industry employment: secondary sector employment times the share of industry in secondary sector employment. Secondary sector employment values of the years prior to 1990 are adjusted (see Holz, 2013). Values for the share of industry in secondary sector employment are available from the population censuses (1982, 1990, 2000, and 2010) and population surveys (1987, 1995, 2005). Share values of other years are interpolated; identical annual growth rates are assumed for all years between two adjacent census/survey dates. The census and survey values for the years through 1990 are of 1 July, and since then of 1 November of that year. The census value of 1 November 1995 was adjusted to turn it into a 1 July 1995 value. To obtain annual values for the years since 1996, the annual growth rate from 1 November in the first year of the interval to 1 November in the last year of the interval was applied to the each year's 1 July value (in this interval).

Employment values for the DRIEs are “average annual total employment” in 1994-2011, with the values for 1994-1997 obtained as DRIE value-added divided by (published) DRIE labor productivity (which yields an identical value to the published average annual total employment value for 1998, the first year for which this particular employment series is published). For the years prior to 1994, DRIE employment values are “average annual staff and workers,” in the one overlapping year 1993 identical up to a difference of 0.0006 percent to the “average annual total employment.”

Sources: Secondary sector employment: *Statistical Yearbook 2012*, p 128. Shares of industry in secondary sector employment: *Population Census* and *Population Survey* volumes of the corresponding years. DRIE employment: 1998-2011: *Statistical Yearbook 2012*, p. 510; 1994-1998: *Statistical Yearbook 1995*, pp. 385, 401, 1996, pp. 411, 427, 1997, pp. 414, 437, 1998, 444, 459, 1999, 432, 437 (labor productivity and value-added); 1978-1994 (as available): *Industrial Statistical Yearbook 1993*, p. 90, 1994, p. 81, 1995, p. 79.

Figure 2. DRIE Share in Industry Employment

Table 3. Coverage of Industrial Sectors, 1995

	Number of enterprises				Gross Output Value				DRIE		Employment			
	Village+ ("all")	DRIEs (% of all)	SOS- CEs (% of all)	Vill- age+ (b yuan)	DRIEs (% of all)	GOV per DRIE (m yuan)	SOS- CEs (% of all)	GOV per SOS- CE (m.y.)	VA per ent. (m yuan)	Vill- age+ (m)	DRIEs (% of all)	Empl. per DRIE	SOS- CEs (% of all)	Empl. per SOS- CE
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
National total	1286134	39.7	6.8	6963	78.9	11	37.2	29	3.0	111.2	77.1	168	40.1	508
<i>Mining</i>	<i>103396</i>	<i>30.2</i>	<i>5.2</i>	<i>446</i>	<i>79.7</i>	<i>11</i>	<i>62.2</i>	<i>52</i>	<i>6.1</i>	<i>13.7</i>	<i>81.2</i>	<i>357</i>	<i>62.4</i>	<i>1599</i>
1 Coal mining and processing	31628	37.8	6.6	142	81.2	10	63.1	43	5.0	7.2	85.0	510	65.2	2230
2 Petroleum and natural gas extraction	176	76.1	30.7	144	99.4	1066	94.8	2524	701.0	1.5	99.0	11096	98.6	27417
3 Ferrous metals mining and processing	7700	27.8	3.4	20	56.6	5	25.6	19	1.9	0.5	67.9	162	35.2	678
4 Nonferrous metals mining/processing	7330	51.5	12.9	41	77.8	9	44.3	19	3.0	0.9	85.1	213	56.5	562
5 Nonmetal minerals mining/processing	52262	22.6	2.3	81	45.0	3	14.4	10	1.1	2.4	51.7	103	22.4	444
6 Other minerals mining and processing	n.a.	n.a.	n.a.	n.a.	n.a.	3	n.a.	7	1.0	n.a.	n.a.	n.a.	n.a.	n.a.
7 Logging, transport of timber/bamboo	4300	28.8	18.1	18	93.9	13	90.5	20	7.3	1.2	96.0	954	94.5	1494
<i>Manufacturing</i>	<i>1121197</i>	<i>41.1</i>	<i>6.7</i>	<i>6105</i>	<i>79.3</i>	<i>11</i>	<i>34.0</i>	<i>28</i>	<i>2.6</i>	<i>91.3</i>	<i>76.2</i>	<i>151</i>	<i>36.1</i>	<i>439</i>
8 Food processing	173348	17.7	5.7	416	73.1	10	37.9	16	1.6	3.7	68.2	83	44.5	169
9 Food manufacturing	32163	50.2	16.5	129	77.1	6	29.4	7	1.3	2.1	78.4	101	42.0	165
10 Beverage manufacturing	32936	44.7	11.0	133	86.7	8	46.1	17	2.4	1.9	82.2	104	51.6	267
11 Tobacco processing	11745	3.6	2.6	104	97.0	237	93.9	322	144.8	0.4	85.5	779	79.8	1017
12 Textile industry	58988	43.5	7.4	558	82.5	18	32.7	42	3.5	10.1	87.0	344	44.8	1045
13 Garments and other fiber products	46513	43.0	2.4	224	65.6	7	4.6	9	1.7	4.2	65.8	138	6.0	228
14 Leather, furs, down; related products	23150	45.2	3.7	141	68.9	9	5.8	10	1.9	2.4	65.7	148	10.0	279
15 Timber, bamboo, cane, etc.	39447	39.2	3.2	70	57.5	3	10.1	6	0.6	1.6	67.3	71	16.6	213
16 Furniture manufacturing	23981	36.5	2.5	47	48.5	3	4.3	3	0.6	1.0	53.9	59	6.4	102
17 Papermaking and paper products	31287	44.4	6.1	145	69.9	7	26.1	20	1.7	2.7	70.2	134	29.1	407
18 Printing and record pressing	23935	64.5	14.8	56	74.0	3	30.1	5	0.8	1.4	81.0	72	40.1	154
19 Stationery, educ. and sports goods	10923	50.9	4.8	53	69.5	7	7.4	8	1.6	1.3	58.2	131	8.3	197
20 Petroleum proc. and coking products	6892	39.7	5.7	217	93.6	74	82.6	457	20.5	0.9	84.7	294	64.4	1563
21 Raw chemical materials and products	49897	56.9	11.7	448	85.2	13	47.8	37	3.3	5.6	87.3	173	56.5	546
22 Medical and pharmaceutical products	6844	78.7	30.7	103	93.0	18	47.7	23	4.9	1.3	93.3	219	58.0	350
23 Chemical fibers	2550	52.3	9.7	87	92.7	61	32.1	113	15.2	0.6	90.3	427	46.8	1189

24 Rubber products	9639	48.4	6.6	78	79.7	13	31.9	39	3.0	1.2	81.6	214	33.4	639
25 Plastic products	44849	42.9	3.6	176	64.1	6	7.9	9	1.2	2.6	62.2	85	10.0	164
26 Nonmetal mineral products	204336	30.0	3.7	501	60.3	5	19.5	13	1.5	13.8	58.4	132	21.2	388
27 Smelting/pressing of ferrous metals	16861	43.3	6.4	419	87.4	50	60.3	234	14.4	4.4	89.2	534	62.9	2550
28 Smelting/pressing of nonferr. metals	9630	48.0	7.5	164	83.8	30	46.5	105	6.5	1.5	86.3	271	57.0	1140
29 Metal products	73591	41.8	3.4	274	60.3	5	8.3	9	1.2	4.3	66.1	93	14.0	243
30 Ordinary machinery manufacturing	64926	45.6	6.7	332	71.3	8	28.6	22	2.3	6.2	79.6	166	39.1	555
31 Special purpose equipment manuf.	31031	60.3	14.1	212	83.0	9	42.1	20	2.4	4.1	88.6	193	54.4	509
32 Transportation equipment manuf.	36259	53.6	11.3	376	88.0	17	45.3	42	4.1	4.8	88.8	219	54.8	643
33 Electric equipment and machinery	35168	55.9	7.6	322	80.5	13	18.4	22	3.1	3.9	80.1	161	28.6	420
34 Electronic and telecomm. equipment	12045	66.4	13.4	270	93.7	32	23.5	39	7.9	2.3	86.3	247	38.3	546
35 Instruments, meters, etc.	8263	68.2	13.8	50	84.4	8	27.7	12	2.2	1.1	86.3	172	45.1	444
36 Other manufacturing	n.a.	n.a.	n.a.	n.a.	n.a.	4	n.a.	5	1.0	0.0	n.a.	n.a.	n.a.	n.a.
<i>Utilities</i>	26910	67.3	26.8	272	99.1	15	77.8	29	7.2	2.8	98.1	150	84.5	325
37 Electric power, steam, hot water	18908	66.6	24.7	246	99.4	19	77.1	40	9.7	2.2	98.2	170	83.5	388
38 Gas production and supply	485	76.7	55.5	8	98.3	20	88.2	25	0.8	0.2	98.8	449	94.1	592
39 Tap water production and supply	7517	68.5	30.1	19	96.7	4	82.0	7	1.6	0.4	97.5	80	86.1	161
Implicit residual	34631	0.5	0.4	140	19.7	169	16.4	156	39.0	3.4	68.4	14372	22.7	5296

Some sector names are abbreviated. For the complete names see GB1994 (Appendix 4).

“Village+” means industrial enterprises at the village level and above, plus private, joint, and individual-owned (*getihu*) industrial enterprises with annual sales revenue in excess of 1m yuan.

The implicit residual presumably includes the (unlisted) weapons and ammunition manufacturing industry. When values for sectors 6 and 36 are not available, the implicit residual necessarily includes the values of these two sectors; when separate values for sectors 6 and 36 are available, the implicit residual does not include the values of these two sectors.

Sources: “Village+” enterprises: *Industrial Census 1995*, Vol. 1, pp. 3f. DRIEs: *Industrial Census 1995*, Vol. 1, pp. 46ff. and 198ff. (or also *Statistical Yearbook 1996*, p. 414 for enterprise numbers and GOV). SOEs: *Industrial Census 1995*, Vol. on SOEs, pp. 16ff. and 168ff. (or also *Statistical Yearbook 1996*, p. 418 for enterprise numbers and GOV).

Table 4. Coverage of Industrial Sectors, 2004

	Number of enterprises			Gross Output Value				DRIE		Employment				
	All industry	DRIEs (% of all)	SOS-CEs (% of all)	All in-dustry (b yuan)	DRIEs (% of all)	GOV per DRIE (m yuan)	SOS-CEs (% of all)	GOV per SOS-CE (m.y.)	VA per ent. (m yuan)	All in-dustry (m)	DRIEs (% of all)	Empl. per DRIE	SOS-CEs (% of all)	Empl. per SOS-CE
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
National total	1375263	20.1	2.6	22232	90.7	73	31.6	197	27	93.04	71.2	240	21.2	554
<i>Mining</i>	78919	13.6	2.6	1242	86.9	100	63.7	381	75	8.68	73.3	592	53.6	2243
1 Mining and washing of coal	26843	19.6	4.1	474	85.9	77	63.6	277	50	5.40	77.7	800	59.2	2941
2 Extraction of petroleum and nat. gas	482	38.0	23.0	463	99.4	2514	90.9	3791	2767	0.98	97.9	5252	96.4	8528
3 Mining/proc. of ferrous metal ores	10262	16.2	1.4	98	73.9	44	21.1	142	20	0.62	62.6	233	23.4	995
4 Mining/pr. of non-ferrous metal ores	6087	24.1	5.6	91	87.7	55	35.5	95	28	0.55	71.9	267	34.5	550
5 Mining/processing of nonmetal ores	34981	6.2	1.1	115	51.1	27	13.6	41	13	1.13	37.7	195	15.2	447
6 Mining of other ores	264	4.5	1.1	1	55.9	48	0.2	1	19	0.01	23.0	142	1.4	33
<i>Manufacturing (and processing)</i>	1258586	20.4	2.2	19396	90.4	68	25.0	179	23	80.81	70.1	221	15.2	453
7 Food from agricultural products	69669	20.2	3.0	954	87.4	59	10.2	47	19	2.96	66.3	139	10.0	144
8 Foods	29896	18.5	3.0	329	88.2	52	10.0	36	21	1.60	69.4	201	10.4	184
9 Beverages	25526	13.6	3.0	274	89.2	70	22.9	82	33	1.22	68.7	242	22.2	353
10 Tobacco	287	73.2	58.5	260	100.0	1236	98.9	1528	1084	0.20	98.4	947	92.4	1111
11 Textiles	83103	29.1	1.5	1166	88.8	43	8.0	74	14	7.63	77.0	243	11.8	716
12 Textile wearing apparel, footw., caps	48286	24.9	0.8	467	85.6	33	2.2	27	12	4.82	68.9	276	2.6	327
13 Leather, fur, feather, related products	22699	28.2	0.6	313	88.3	43	1.0	21	15	2.76	76.5	330	1.2	223
14 Timber, wood, bamboo	39938	12.6	0.9	200	69.2	28	6.2	36	9	1.58	48.8	153	7.1	325
15 Furniture	23913	12.7	0.6	150	77.2	38	3.8	40	13	1.08	60.1	215	1.9	145
16 Paper and paper products	39721	18.8	1.3	397	84.9	45	12.2	91	15	2.01	64.9	175	10.1	380
17 Printing, reprod. of recording media	41241	12.5	3.8	174	68.7	23	16.8	19	10	1.27	50.0	124	14.9	122
18 Articles for culture, education, sport	14622	23.1	0.9	143	85.2	36	2.8	32	11	1.49	72.4	318	2.2	258
19 Petroleum, coking, nuclear fuel	7163	28.2	3.9	909	98.2	442	76.6	2503	100	0.78	87.2	337	45.1	1265
20 Raw chem. materials & products	75179	25.0	3.0	1403	92.3	69	30.6	191	23	4.45	73.4	174	26.2	517
21 Medicines	11296	41.7	7.4	337	96.3	69	26.5	107	31	1.32	86.3	243	27.3	433
22 Chemical fibers	3383	45.4	3.6	199	97.9	127	25.1	407	37	0.43	90.6	255	31.1	1093
23 Rubber	15190	20.9	1.7	205	88.8	57	15.1	123	20	1.09	74.0	255	12.1	522
24 Plastics	69751	17.6	0.9	525	79.8	34	5.9	49	11	2.92	60.1	143	3.5	160

25 Non-metallic mineral products	157861	12.6	1.6	995	75.0	37	11.6	47	14	8.40	49.5	208	9.4	322
26 Smelting/proc. of ferrous metals	20526	34.8	2.7	1731	97.9	237	49.6	1553	87	3.09	89.6	388	46.5	2598
27 Smelting/proc. of non-ferrous metals	15186	34.9	3.5	624	95.9	113	34.2	399	37	1.47	86.5	240	39.8	1098
28 Metal products	81028	17.4	1.2	636	81.1	37	6.9	45	12	3.50	60.8	151	5.8	207
29 General purpose machinery	113789	18.1	2.0	1027	83.0	41	20.6	92	15	5.28	65.1	167	16.8	384
30 Special purpose machinery	55147	19.8	3.3	582	87.0	46	26.1	84	16	3.10	71.0	201	27.2	465
31 Transport equipment	53852	22.0	4.5	1454	94.9	117	52.8	319	34	4.33	78.9	289	36.2	652
32 Electrical machinery, equipment	60144	26.8	2.1	1204	93.3	70	10.5	99	23	4.45	78.3	216	9.2	323
33 Communication equipm., computers	27339	33.5	3.8	2259	98.5	243	15.0	326	65	4.35	87.0	413	11.5	482
34 Measuring instruments, machinery	16716	23.4	3.9	241	91.0	56	10.8	39	20	1.14	74.0	215	14.8	255
35 Artwork and other manufacturing	32580	15.7	0.9	212	77.6	32	6.4	48	11	1.99	62.3	242	5.3	376
36 Recycling and disposal of waste	3555	10.9	0.6	26	77.8	53	2.6	33	14	0.09	46.1	103	2.3	95
<i>Utilities</i>	<i>37758</i>	<i>23.1</i>	<i>17.1</i>	<i>1593</i>	<i>98.2</i>	<i>179</i>	<i>86.8</i>	<i>214</i>	<i>72</i>	<i>3.55</i>	<i>89.6</i>	<i>365</i>	<i>79.1</i>	<i>435</i>
37 Prod./distrib. of electric/heat power	24607	22.5	16.1	1490	98.8	266	88.2	331	103	2.79	91.5	461	80.4	565
38 Production and distribution of gas	1447	34.3	17.9	44	95.6	84	59.7	101	28	0.18	88.4	314	75.1	512
39 Production and distribution of water	11704	23.0	19.0	59	86.8	19	70.4	19	10	0.59	80.8	176	73.8	194

Sectoral values add up to the total. Many sector names are abbreviated. For the complete names see GB2002 (Appendix 5).

Sources: *Economic Census 2004*, Vol. "Secondary Sector, first volume," pp. 2-4, 10-38, and 130-58. Data on DRIE value-added (VA) are from the *Industrial Yearbook 2007*, pp. 62f.; enterprise data in this source differ from those in the economic census by 2 percent in the aggregate (national total). The economic census publication does not report value-added.

Table 5. Coverage of Industrial Sectors, 2008

	Number of enterprises				Gross Output Value				Employment				
	All industry	DRIEs (% of all)	SOS-CEs (% of all)	All in-dustry (b yuan)	DRIEs (% of all)	GOV per DRIE (m yuan)	SOS-CEs (% of all)	GOV per SOS-CE (m yuan)	All in-dustry (m)	DRIEs (% of all)	Empl. per DRIE	SOS-CEs (% of all)	Empl. per SOS-CE
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII
National total	1903380	22.4	1.1	54394	93.3	119	26.4	675	120.07	73.6	207	14.9	842
<i>Mining</i>	<i>94207</i>	<i>21.2</i>	<i>1.7</i>	<i>3622</i>	<i>92.8</i>	<i>168</i>	<i>56.7</i>	<i>1267</i>	<i>9.93</i>	<i>79.0</i>	<i>392</i>	<i>48.8</i>	<i>2991</i>
1 Mining and washing of coal	21317	43.2	4.1	1549	94.4	159	55.8	1001	5.73	87.7	545	58.2	3860
2 Extraction of petroleum and natural gas	1326	22.5	8.4	1064	99.8	3550	95.9	9110	1.15	98.0	3771	95.2	9779
3 Mining and proc. of ferrous metal ores	16872	23.6	0.8	426	88.2	94	16.0	516	0.96	64.4	154	14.0	1016
4 Mining and proc. of non-ferrous metal ores	10191	24.9	2.8	295	92.6	107	25.9	266	0.76	70.7	211	22.3	588
5 Mining and processing of nonmetal ores	43838	9.0	0.5	285	65.6	47	8.9	113	1.33	40.8	137	9.0	527
6 Mining of other ores	663	3.9	0.2	3	36.5	40	0.4	11	0.02	17.4	108	0.6	100
<i>Manufacturing (and processing)</i>	<i>1753074</i>	<i>22.6</i>	<i>0.8</i>	<i>47454</i>	<i>93.0</i>	<i>111</i>	<i>19.9</i>	<i>653</i>	<i>106.21</i>	<i>72.8</i>	<i>195</i>	<i>9.7</i>	<i>715</i>
7 Food from agricultural products	99799	22.8	0.8	2601	92.0	105	5.1	163	4.61	68.3	138	3.9	223
8 Foods	40338	20.1	1.0	847	91.1	95	8.1	179	2.19	70.6	191	6.5	371
9 Beverages	33856	16.0	1.0	682	91.6	116	17.2	360	1.65	68.3	209	13.9	705
10 Tobacco	236	66.1	50.4	449	99.9	2877	99.3	3747	0.20	98.8	1267	94.0	1581
11 Textiles	103983	31.9	0.5	2342	91.4	65	2.9	138	8.25	79.0	197	4.9	829
12 Textile wearing apparel, footwear, caps	76038	24.0	0.3	1085	86.9	52	1.2	64	6.42	71.5	252	1.4	438
13 Leather, fur, feather, related products	29422	29.3	0.1	648	90.6	68	0.7	138	3.41	80.0	317	0.4	417
14 Timber, wood, bamboo	61252	16.8	0.3	606	79.3	47	2.3	82	2.42	54.2	127	2.5	359
15 Furniture	34773	15.5	0.1	373	82.5	57	1.7	161	1.62	64.6	194	0.6	256
16 Paper and paper products	47062	21.3	0.4	874	90.1	79	7.9	351	2.22	68.3	152	5.3	598
17 Printing, reproduction of recording media	51630	12.6	1.1	359	74.8	41	10.5	64	1.56	52.5	127	8.6	227
18 Articles for culture, education, sport	19235	24.9	0.3	285	87.6	52	1.4	64	1.74	76.1	277	1.0	298
19 Petroleum, coking, nuclear fuel	6181	39.1	3.7	2278	99.3	937	71.9	7091	0.94	91.3	356	45.5	1855
20 Raw chem. materials & products	92812	30.4	1.5	3556	95.5	120	22.0	556	5.65	76.0	152	18.0	725
21 Medicines	14676	44.5	3.6	808	97.5	121	15.1	231	1.70	88.6	231	17.5	564
22 Chemical fibers	4344	46.7	1.4	404	98.2	196	12.0	809	0.50	90.8	222	24.0	1983
23 Rubber	20077	23.2	0.6	460	92.0	91	12.1	455	1.29	75.3	209	9.2	971

24	Plastics	94792	20.6	0.3	1171	84.5	51	3.4	124	3.98	64.2	131	2.0	244
25	Non-metallic mineral products	206303	14.8	0.7	2529	82.8	69	8.7	156	9.46	52.7	163	5.8	385
26	Smelting/processing of ferrous metals	18018	44.5	1.8	4514	99.1	558	41.2	5580	3.35	93.5	391	38.8	3909
27	Smelting/processing of non-ferrous metals	20584	39.8	2.3	2137	98.0	255	29.0	1303	2.12	87.5	226	29.1	1295
28	Metal products	127108	19.3	0.4	1744	86.2	61	5.6	193	5.15	63.5	133	3.2	323
29	General purpose machinery	175733	21.0	0.7	2797	88.3	67	14.7	342	7.37	66.9	134	9.2	565
30	Special purpose machinery	89087	21.0	1.1	1610	90.2	78	22.0	352	4.36	70.7	165	16.6	720
31	Transport equipment	76353	24.6	1.9	3477	96.1	178	43.1	1048	5.89	80.3	252	26.1	1076
32	Electrical machinery, equipment	89273	28.8	0.8	3195	95.2	118	8.0	355	6.55	80.6	205	5.4	490
33	Communication equipment, computers	43298	33.1	1.8	4461	98.4	306	8.7	501	7.53	89.9	472	7.4	721
34	Measuring instruments, machinery	22810	24.6	1.6	535	93.2	89	9.3	138	1.53	76.3	207	8.7	371
35	Artwork and other manufacturing	46244	16.6	0.3	495	82.5	53	4.6	182	2.28	62.8	186	2.1	388
36	Recycling and disposal of waste	7757	14.0	0.5	131	86.6	105	8.7	284	0.25	57.5	131	15.3	945
	<i>Utilities</i>	<i>56099</i>	<i>16.3</i>	<i>9.3</i>	<i>3318</i>	<i>97.4</i>	<i>353</i>	<i>86.6</i>	<i>550</i>	<i>3.93</i>	<i>81.9</i>	<i>351</i>	<i>69.9</i>	<i>525</i>
37	Prod./distr. of electric/heat power	36835	16.9	10.0	3045	98.2	479	89.9	746	3.03	85.7	416	75.1	619
38	Production and distribution of gas	3023	28.3	8.6	159	95.0	176	46.4	283	0.22	80.9	212	46.9	405
39	Production and distribution of water	16241	12.6	7.9	115	79.7	44	54.4	48	0.68	64.8	213	54.1	283

Sectoral values add up to the total. Many sector names are abbreviated. For the complete names see GB2002 (Appendix 5).

Sources: *Economic Census 2008*, Vol. "Secondary Sector, first volume," pp. 2-4, 10-38, and 100-28 (or *Industrial Statistical Yearbook 2009*, pp. 60, 65, 68, 73). The economic census publication does not report value-added; nor does the *Statistical Yearbook* or the *Industrial Statistical Yearbook*.

Table 6. Significance Levels of Correlations across Sectors (in %)

	GOV per enterprise			Employees per enterprise			GOV per employee		
	DRIEs	SOEs	non-DRIE/ DRIE	DRIEs	SOEs	non-DRIE/ DRIE	DRIEs	SOEs	non-DRIE/ DRIE
1995									
DRIE share in the # of enterprises	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
DRIE share in GOV	0.1	5	(-)0.1	0.1	1	(-)1	1	5	n.s.
DRIE share in employment	1	10	(-)0.1	0.1	1	(-)0.1	n.s.	n.s.	n.s.
SOE share in the # of enterprises	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
SOE share in GOV	1	0.1	(-)0.1	0.1	0.1	(-)0.1	10	1	n.s.
SOE share in employment	5	5	(-)0.1	0.1	0.1	(-)0.1	n.s.	n.s.	n.s.
Same variable: DRIE and ...		0.1	(-)0.1		0.1	(-)0.1		0.1	(-)0.1
Same variable: Non-DRIE and ...	0.1	5	n.s.	n.s.	n.s.	1	0.1	0.1	n.s.
2004									
DRIE share in the # of enterprises	1	5	(-)0.1	5	5	(-)1	5	10	(-)5
DRIE share in GOV	1	5	(-)0.1	5	10	(-)0.1	1	1	(-)1
DRIE share in employment	1	5	(-)0.1	1	1	(-)0.1	5	5	(-)10
SOE share in the # of enterprises	n.s.	n.s.	n.s.	n.s.	n.s.	(-)1	n.s.	n.s.	n.s.
SOE share in GOV	1	0.1	(-)1	1	0.1	(-)0.1	5	1	n.s.
SOE share in employment	5	5	(-)5	1	0.1	(-)0.1	n.s.	n.s.	n.s.
Same variable: DRIE and ...		0.1	(-)0.1		0.1	(-)0.1		0.1	(-)0.1
Same variable: Non-DRIE and ...	0.1	0.1	n.s.	0.1	1	n.s.	0.1	0.1	(-)5
2008									
DRIE share in the # of enterprises	0.1	1	(-)0.1	0.1	0.1	(-)0.1	1	5	(-)1
DRIE share in GOV	5	5	(-)0.1	1	5	(-)0.1	5	5	(-)0.1
DRIE share in employment	1	1	(-)0.1	0.1	0.1	(-)0.1	1	5	(-)1
SOE share in the # of enterprises	10	n.s.	(-)10	10	n.s.	(-)5	n.s.	n.s.	n.s.
SOE share in GOV	0.1	0.1	(-)1	1	0.1	(-)1	0.1	0.1	(-)10
SOE share in employment	0.1	1	(-)5	1	0.1	(-)1	1	5	n.s.
Same variable: DRIE and ...		0.1	(-)0.1		0.1	(-)0.1		0.1	(-)0.1
Same variable: Non-DRIE and ...	1	1	n.s.	0.1	1	n.s.	0.1	0.1	(-)1

Numbers are significance levels in percent. "n.s." means not significant at the 10 percent level.

SOEs: SOEs in 1995, SOSCEs in 2004 and 2008.

Monopoly sectors are omitted from the analysis. In 1995, these are the five sectors 'extraction of petroleum and natural gas,' 'tobacco processing,' 'electric power, steam, and hot water production and supply,' 'gas production and supply,' and 'tap water production and supply;' insufficient data are available for the two sectors 'other minerals mining and processing,' and 'other manufacturing.' In 2004 and 2008, the monopoly sectors are the three sectors 'extraction of petroleum and natural gas,' 'manufacture of tobacco,' and 'production and distribution of electric power and heat power.' The findings are very similar if the monopoly sectors are included.

Sources: see previous three tables.

Appendix 1 Pre-1984 Sectoral Classification Scheme with Population Census 1982 Employment Values

			Employment 1982	Share of subgroup (in %)	Share of total (in %)	Changes in GB1984
Total			521505618		100.00	
I	农, 林, 牧, 渔业	Agriculture	384155030	100.00	73.66	
1	农业	Farming	375123822	97.65	71.93	
2	畜牧业	Forestry	4489956	1.17	0.86	
3	林业	Animal husbandry	2692609	0.70	0.52	
4	渔业	Fisheries	1848643	0.48	0.35	
II- IV	工业	Industry	71570392		13.72	
II	矿业及木材采运业	Mineral and timber extraction	8401845	100.00	1.61	
1	矿业	Minerals	7550143	89.86	1.45	
	(1) 煤炭采选业	Coal mining and dressing	4616751	54.95	0.89	
	(2) 石油和天然气开采业	Petroleum and natural gas extraction	396458	4.72	0.08	
	(3) 金属矿业	Metal mining	1015450	12.09	0.19	disaggregated
	(4) 非金属矿业	Nonmetal mining	1521484	18.11	0.29	reabeled?
2	木材及竹材采选业	Logging and transport of timber and bamboo	851702	10.14	0.16	
III	电力, 煤气, 自来水的生产和供应业	Utilities	1500343	100.00	0.29	
1	电力, 蒸汽和热水的生产和供应业	Prod. and supply of electric power, steam and hot water	1240962	82.71	0.24	relocated
2	煤气生产和供应业	Production and supply of gas	50599	3.37	0.01	subsumed elsewh.
3	自来水生产和供应业	Production and supply of tap water	208782	13.92	0.04	relocated
IV	制造业	Manufacturing	61668204	100.00	11.83	
1	食品, 饮料和烟草制造业	Food, beverage, and tobacco processing	4563044	7.40	0.87	
	(1) 食品制造业	Food manufacturing	3569261	5.79	0.68	
	(2) 饮料制造业	Beverage manufacturing	792032	1.28	0.15	
	(3) 烟草加工业	Tobacco processing	201751	0.33	0.04	
2	纺织业	Textile industry	6646580	10.78	1.27	

3	缝纫业	Sewing industry	3068476	4.98	0.59	
4	皮革, 毛皮及其制品制造业	Leather, furs and related products	1026637	1.66	0.20	
5	木材加工业	Timber processing	880550	1.43	0.17	reabeled?
6	家具制造业	Furniture manufacturing	2306805	3.74	0.44	
7	制浆, 造纸及纸制品业	Paper pulp, papermaking and paper products	1402762	2.27	0.27	reabeled
8	文教, 艺术用品制造业及印刷业	Manufacture of cultural and arts products, printing	3971169	6.44	0.76	disaggregated
9	化学工业	Chemical industry	3508985	5.69	0.67	disaggregated?
10	医药制造业	Manufacture of medical products	553796	0.90	0.11	
11	橡胶及塑料制品制造业	Rubber and plastic product manufacturing	1939617	3.15	0.37	disaggregated
12	石油及煤制品制造业	Petroleum and coal product manufacturing	510910	0.83	0.10	disaggregated
13	非金属矿物制品制造业	Nonferrous metals products manufacturing	7413201	12.02	1.42	reabeled?
14	冶金工业	Metallurgical industry	2214573	3.59	0.42	disaggregated
15	金属制品制造业	Metal products manufacturing	3919606	6.36	0.75	
16	一般机械(不包括电气机械)制造业	Ordinary machinery manufacturing (excl. electric machinery)	8697947	14.10	1.67	reabeled
17	电气, 电子机械设备制造业	Electric and electronic machinery/equipment manufacturing	3448322	5.59	0.66	disaggregated
18	交通运输设备制造业	Transport equipment	2569887	4.17	0.49	
19	精密机械及仪器仪表制造业	Precision machinery and instruments and meters manufacturing	1229772	1.99	0.24	reabeled?
20	其他制造业及修理业	Other manufacturing and repairs	1795565	2.91	0.34	repairs omitted
V	地质勘查和普查业	Geological investigation and prospecting	824043		0.16	
	地质勘查和普查业	Geological investigation and prospecting	824043		0.16	
VI	建筑业	Construction	11009419	100.00	2.11	
1	土木工程建筑业	Building projects	9920987	90.11	1.90	
2	线路, 管道和设备安装业	Installation of lines, pipelines, and equipment	602351	5.47	0.12	
3	勘察设计	Design	270219	2.45	0.05	
4	筹建机构	Preparatory organizations	215862	1.96	0.04	dropped
VII	交通运输, 邮电通信业	Transport, post and telecommunication services	8980972	100.00	1.72	
1	运输业	Transport	8207026	91.38	1.57	
2	邮电通信业	Post and telecommunications	773946	8.62	0.15	
VIII	商业, 饮食业, 物资供销及仓储业	Trade, public catering, material supply and	15507928	100.00	2.97	

		<i>marketing cooperatives, and storage</i>				
1	商业	Trade	12079932	77.90	2.32	
2	饮食业	Public catering	1979667	12.77	0.38	
3	物资供销	Material supply and marketing cooperatives	818903	5.28	0.16	
4	仓储业	Storage	629426	4.06	0.12	
IX	住宅管理, 公用事业管理和居民服务业	<i>Housing admin., public facilities, and household serv.</i>	2441405	100.00	0.47	<i>reabeled, expanded?</i>
1	房地产管理事业	Real estate administration	324389	13.29	0.06	
2	公用事业	Public facilities	544823	22.32	0.10	
3	居民服务业	Resident services	1572193	64.40	0.30	
X	卫生, 体育和社会福利事业	<i>Health care, sports, and social welfare facilities</i>	4101355	100.00	0.79	
1	卫生事业	Health care	3945368	96.20	0.76	
2	体育事业	Sports	53405	1.30	0.01	
3	社会福利事业	Social welfare facilities	102582	2.50	0.02	
XI	教育, 文化艺术事业	<i>Education, culture and arts</i>	12382079	100.00	2.37	
1	教育事业	Education	11284817	91.14	2.16	
2	文化艺术事业	Culture and arts	1097262	8.86	0.21	
XII	科学研究和综合技术服务	<i>Scientific research and polytechnic services</i>	1202272	100.00	0.23	
1	科学研究	Scientific research	988837	82.25	0.19	
2	综合技术服务事业	Polytechnic services	213435	17.75	0.04	
XIII	金融, 保险业	<i>Finance and insurance</i>	1022975	100.00	0.20	
1	金融业	Finance	1011653	98.89	0.19	
2	保险业	Insurance	11322	1.11	0.00	
XIV	国家机关, 政党和群众团体	<i>Government agencies, Party agencies, and social organizations</i>	8018546	100.00	1.54	
1	国家机关	Government agencies	6051618	75.47	1.16	
2	政党机关	Party agencies	419238	5.23	0.08	
3	群众团体	Social organizations	339088	4.23	0.07	
4	企业管理机关	Enterprise administrative agencies	1208602	15.07	0.23	
XV	其他行业	<i>Others</i>	289202		0.06	
	其他行业	Others	289202		0.06	

This appendix presents the classification system in use in the 1982 population census. Source: *Population Census 1982*, pp. 440, 444.

Appendix 2 Sectoral Classification System GB/T4754-1984 with Population Census 1990 Employment Values

Changes from pre-1984 classification				Employment 1990	Share of subgroup (in %)	Share of total (in %)	Changes in GB1994
Total				647244706		100.00	
	I	农, 林, 牧, 渔, 水利业	Agriculture and water conservancy	467593223	100.00	72.24	
	1	农业	Farming	458158168	97.98	70.79	
	2	林业	Forestry	1923440	0.41	0.30	
	3	畜牧业	Animal husbandry	3204832	0.69	0.50	
	4	渔业	Fisheries	2381572	0.51	0.37	
new	5	水利业	Water conservancy	603082	0.13	0.09	relocated
new	6	农, 林, 牧, 渔, 水利服务业	Agricultural (and water conservancy) services	1322129	0.28	0.20	dropped water
	II	工业	Industry	86578757	100.00	13.38	
	1	煤炭采选业	Coal mining and dressing	5432001	6.27	0.84	
	2	石油和天然气开采业	Petroleum and natural gas extraction	541316	0.63	0.08	
newly disaggregated	3	黑色金属矿采选业	Ferrous metals mining and dressing	446528	0.52	0.07	
newly disaggregated	4	有色金属矿采选业	Nonferrous metals mining and dressing	829008	0.96	0.13	
relabelled?	5	建筑材料及其他非金属矿采选业	Construction and other nonmetal minerals mining and dressing	1185680	1.37	0.18	relabelled
newly disaggregated	6	采盐业	Salt mining	277520	0.32	0.04	dropped
new	7	其他矿采选业	Other minerals mining and dressing	1570	0.00	0.00	
	8	木材及竹材采运业	Logging and transport of timber, bamboo	861004	0.99	0.13	
	9	自来水生产和供应业	Production and supply of tap water	353872	0.41	0.05	relocated
	10	食品制造业	Food manufacturing	4599086	5.31	0.71	newly disaggregated
	11	饮料制造业	Beverage manufacturing	1466453	1.69	0.23	

	12	烟草加工业	Tobacco processing	322898	0.37	0.05
new	13	饲料工业	Feed processing	182738	0.21	0.03 dropped
	14	纺织业	Textile industry	10124687	11.69	1.56
	15	缝纫业	Sewing industry	4086437	4.72	0.63 relabeled?, expanded?
	16	皮革, 毛皮及其制品业	Leather, furs and related products	1350773	1.56	0.21 expanded
relabeled?	17	木材加工及竹, 藤, 棕, 草制品业	Timber processing, bamboo, cane, palm fiber and straw products	1255338	1.45	0.19
	18	家具制造业	Furniture manufacturing	1640075	1.89	0.25
relabeled	19	造纸及纸制品业	Papermaking and paper products	1854668	2.14	0.29
	20	印刷业	Printing industry	1364989	1.58	0.21
newly disaggregated	21	文教体育用品制造业	Cultural, educational and sports goods	725679	0.84	0.11
newly disaggregated	22	工艺美术品制造业	Crafts and art production	2069553	2.39	0.32 dropped
	23	电力, 蒸汽, 热水生产和供应业	Production and supply of electric power, steam and hot water	1986050	2.29	0.31 relocated
newly disaggregated new coverage	24	石油加工业	Petroleum processing	388090	0.45	0.06 expanded
	25	炼焦, 煤气及煤制品业	Coking, gas, and coal processing	429847	0.50	0.07 newly disagg./ reclass.
newly disaggregated	26	化学工业	Chemical industry	4440986	5.13	0.69 relabeled
	27	医药工业	Medical industry	903138	1.04	0.14
newly disaggregated	28	化学纤维工业	Chemical fiber industry	397956	0.46	0.06
newly disaggregated	29	橡胶制品业	Rubber products	960814	1.11	0.15
newly disaggregated	30	塑料制品业	Plastic products	1704711	1.97	0.26
relabeled?	31	建筑材料及其他非金属矿物制品业	Construction materials and other nonmetal minerals processing	7526594	8.69	1.16 relabeled?
newly	32	黑色金属冶炼及压	Smelting and pressing of ferrous	2424353	2.80	0.37

disaggregated		延加工业	metals			
newly	33	有色金属冶炼及压	Smelting and pressing of nonferrous	767101	0.89	0.12
disaggregated		延加工业	metals			
	34	金属制品业	Metal products	3588463	4.14	0.55
reabeled	35	机械工业	Machinery industry	10270999	11.86	1.59 newly disaggregated
	36	交通运输设备制造	Transport equipment	3688484	4.26	0.57
		业				
newly	37	电气机械及器材制	Electric equipment and machinery	3097966	3.58	0.48
disaggregated		造业				
newly	38	电子及通信设备制	Electronic and telecommunications	1761358	2.03	0.27
disaggregated		造业	equipment			
reabeled?	39	仪器仪表及其他计	Instruments, meters, and other	843371	0.97	0.13 reabeled
		量器具制造业	measuring tools manufacturing			
new	40	其他工业	Other manufacturing	426603	0.49	0.07
	III	地质普查和勘探业	Geological investigation and	798147		0.12 reabeled, expanded
			prospecting			
		地质普查和勘探业	Geological investigation and	798147		0.12 reabeled
			prospecting			
	IV	建筑业	Construction	11642485	100.00	1.80 new coverage
	1	土木工程建筑业	Building projects	10382037	89.17	1.60
	2	线路, 管道和设备	Installation of lines, pipelines, and	871132	7.48	0.13
		安装业	equipment			
	3	勘察设计业	Design	389316	3.34	0.06 dropped
	V	交通运输, 邮电通讯业	Transport, post and telecomm.	11751280	100.00	1.82 expanded
			services			
	1	交通运输业	Transport	10761616	91.58	1.66 newly disaggregated
	2	邮电通讯业	Post and telecommunications	989664	8.42	0.15
	VI	商业, 公共饮食业, 物资	Trade, public catering, material	25771405	100.00	3.98 new coverage
		供销和仓储业	supply and marketing cooperatives,			
			and storage			
	1	商业	Trade	20795912	80.69	3.21 reclassified
	2	公共饮食业	Public catering	2888588	11.21	0.45 reclassified
	3	物资供销社	Material supply and marketing coop.	1251531	4.86	0.19 dropped?,

						reclassified?
	4	仓储业	Storage	835374	3.24	0.13 relocated
<i>relabelled</i>	VII	房地产业管理, 公用事业 居民服务和咨询服务业	Real estate administration, public facilities, resident services, and consulting services	6188251	100.00	0.96 new coverage
	1	房地产业管理业	Real estate administration	485033	7.84	0.07
	2	公用事业	Public facilities	1558511	25.18	0.24 relocated, relabeled
	3	居民服务业	Resident services	4017682	64.92	0.62 relocated
<i>new</i>	4	咨询服务业	Consulting services	127025	2.05	0.02 relocated
	VIII	卫生, 体育和社会福利事 业	Health care, sports, and soc. welfare fac.	5167832	100.00	0.80
	1	卫生事业	Health care	4974019	96.25	0.77
	2	体育事业	Sports	61623	1.19	0.01
	3	社会福利事业	Social welfare facilities	132190	2.56	0.02 relabeled or expanded
	IX	教育, 文化艺术和广播电 视事业	Education, culture and arts, radio, film, and television	15102055	100.00	2.33
	1	教育事业	Education	13747000	91.03	2.12
	2	文化艺术事业	Culture and arts	1107482	7.33	0.17
	3	广播电视事业	Radio and film	247573	1.64	0.04
	X	科学研究和综合技术服务 事业	Scientific research and polytechn. serv.	1450491	100.00	0.22
	1	科学研究事业	Scientific research	1125753	77.61	0.17
	2	综合技术服务事业	Polytechnic services	324738	22.39	0.05
	XI	金融保险业	Finance and insurance	2132142	100.00	0.33
	1	金融业	Finance	2023565	94.91	0.31
	2	保险业	Insurance	108577	5.09	0.02
	XII	国家机关, 政党机关和社 会团体	Government agencies, Party agencies, and social organization	12952647	100.00	2.00
	1	国家机关	Government agencies	9384828	72.45	1.45
	2	政党机关	Party agencies	723002	5.58	0.11
	3	社会团体	Social organizations	988316	7.63	0.15
	4	企业管理机关	Enterprise administrative agencies	1856501	14.33	0.29 dropped

<i>XIII 其他行业</i>	<i>Others</i>	<i>115991</i>	<i>0.02</i>
其他行业	Others	115991	0.02

Sources: NBS (1988), pp. 623-702, for classification; *Population Census 1990*, Vol. 2, pp. 296-339 (with embedded identical classification).

Appendix 3 Sectoral Classification System GB/T4754-1994 with Population Census 2000 Employment Values

Changes from GB1984				Long-form employ-ment 2000	Share of subgroup (in %)	Share of total (in %)	Changes in GB2002
			Total	66874889		100.00	
<i>new coverage</i>	I	农, 林, 牧, 渔业	Agriculture	43051661	100.00	64.38	
	1	农业	Farming	41224929	95.76	61.64	
	2	林业	Forestry	157140	0.37	0.23	
	3	畜牧业	Animal husbandry	1189778	2.76	1.78	
	4	渔业	Fisheries	336224	0.78	0.50	
	5	农, 林, 牧, 渔服务业	Agricultural services	143590	0.33	0.21	
	II	采掘业	Mining and quarrying	697862	100.00	1.04	
	6	煤炭采选业	Coal mining and dressing	378844	54.29	0.57	reabeled
	7	石油和天然气开采业	Petroleum and natural gas extraction	50104	7.18	0.07	
	8	黑色金属矿采选业	Ferrous metals mining and dressing	41443	5.94	0.06	
	9	有色金属矿采选业	Nonferrous metals mining and dressing	67155	9.62	0.10	
reabeled	10	非金属矿采选业	Nonmetal minerals mining and dressing	126882	18.18	0.19	
	11	其他矿采选业	Other minerals mining and dressing	5781	0.83	0.01	reabeled
	12	木材及竹材采运业	Logging and transp. of timber and bamboo	27653	3.96	0.04	into agriculture
	III	制造业	Manufacturing	8333044	100.00	12.46	
newly disaggregated	13	食品加工业	Food processing	397453	4.77	0.59	reclassified
newly disaggregated	14	食品制造业	Food manufacturing	226006	2.71	0.34	
	15	饮料制造业	Beverage manufacturing	134691	1.62	0.20	
	16	烟草加工业	Tobacco processing	34126	0.41	0.05	
	17	纺织业	Textile industry	806700	9.68	1.21	subcategory to agric.
reabeled?, expanded?	18	服装及其他纤维制品制造业	Garments and other fiber products	747232	8.97	1.12	expanded/ reabeled?
expanded	19	皮革, 毛皮, 羽绒及其制品业	Leather, furs, down and related products	296565	3.56	0.44	reabeled
	20	木材加工及竹, 藤, 棕, 草制品业	Timber processing, bamboo, cane, palm fiber and straw products	229120	2.75	0.34	

	21	家具制造业	Furniture manufacturing	240687	2.89	0.36
	22	造纸及纸制品业	Papermaking and paper products	179689	2.16	0.27
	23	印刷业 [记录媒介的复制]	Printing industry [Printing and record medium reproduction]	139529	1.67	0.21
expanded	24	文教体育用品制造业	Cultural, educational and sports goods	188288	2.26	0.28
reabeled	25	石油加工及炼焦业	Petroleum processing and coking	59256	0.71	0.09 expanded
	26	化学原料及化学制品制造业	Raw chemical materials and chemical products	357526	4.29	0.53
	27	医药制造业	Medical and pharmaceutical products	104866	1.26	0.16
	28	化学纤维制造业	Chemical fiber	54194	0.65	0.08
	29	橡胶制品业	Rubber products	82212	0.99	0.12
	30	塑料制品业	Plastic products	237486	2.85	0.36
reabeled?	31	非金属矿物制品业	Nonmetal mineral products	679357	8.15	1.02
	32	黑色金属冶炼及压延加工业	Smelting and pressing of ferrous metals	199262	2.39	0.30
	33	有色金属冶炼及压延加工业	Smelting and pressing of nonferrous metals	88212	1.06	0.13
	34	金属制品业	Metal products	442679	5.31	0.66
newly disaggregated	35	普通机械制造业	Ordinary machinery	459530	5.51	0.69 reabeled
newly disaggregated	36	专用设备制造业	Special purpose equipment	255159	3.06	0.38
	37	交通运输设备制造业	Transport equipment	512928	6.16	0.77
new	38	武器弹药制造业	Weapons and ammunition manufacturing	30954	0.37	0.05 into special purpose machinery
	39	电气机械及器材制造业	Electric equipment and machinery	372417	4.47	0.56
	40	电子及通信设备制造业	Electronic and telecommunications equipment	352795	4.23	0.53 reabeled
reabeled	41	仪器仪表及文化, 办公用机械制造业	Instruments, meters, cultural and office equipment	101254	1.22	0.15 reclassified
	42	其他制造业	Other manufacturing	322871	3.87	0.48
	IV	电力, 燃气及水的生产和供应业	Utilities	418822	100.00	0.63

	43	电力, 蒸汽, 热水的生产和供应业	Production and supply of electric power, steam and hot water	322303	76.95	0.48 new coverage?
newly disaggregated	44	煤气生产和供应业	Production and supply of gas	31427	7.50	0.05
	45	自来水的生产和供应业	Production and supply of tap water	65092	15.54	0.10 relabeled, expanded
new coverage	V	建筑业	Construction	1794657	100.00	2.68 reclassified
	46	土木工程建筑业	Building projects	1445877	80.57	2.16 relabeled
	47	线路, 管道和设备安装业	Installation of lines, pipelines, and equipment	88086	4.91	0.13 dropped
new	48	装修装饰业	Renovation and decoration	260694	14.53	0.39 disaggregated
new coverage	VI	地质勘查业, 水利管理业	Geological prospecting and water management (conservancy)	84500	100.00	0.13 dropped
relabeled	49	地质勘查业	Geological prospecting	36292	42.95	0.05 relocated
relocated	50	水利管理业	Water management (conservancy)	48208	57.05	0.07 relocated
expanded	VII	交通运输, 仓储及邮电通信业	Transport, storage, post and telecommunication services	1724636	100.00	2.58 reclassified
newly disaggregated	51	铁路运输业	Railway transport	200073	11.60	0.30
newly disaggregated	52	公路运输业	Road transport	977866	56.70	1.46 relabeled/ reduced
newly disaggregated	53	管道运输业	Pipeline transport	3214	0.19	0.00
newly disaggregated	54	水上运输业	Water transport	68119	3.95	0.10
newly disaggregated	55	航空运输业	Air transport	15964	0.93	0.02
newly disaggregated	56	交通运输辅助业	Subsidiary transport business	194429	11.27	0.29 reclassified
newly disaggregated	57	其他运输业	Other transport	2827	0.16	0.00 aggregated
relocated	58	仓储业	Storage	86800	5.03	0.13
	59	邮电通信业	Post and telecommunications	175344	10.17	0.26 partly to G category
new coverage	VIII	批发和零售贸易, 餐饮业	Wholesale and retail trades, and catering services	4474040	100.00	6.69 new coverage
reclassified	60	食品, 饮料, 烟草和家庭用品批发业	Wholesale of foods, beverages, tobacco, and consumer goods	590085	13.19	0.88 reclassified
reclassified	61	能源, 材料和机械电子设备批发业	Wholesale of energy, raw materials, machinery, and electronic equipment	352935	7.89	0.53 reclassified
reclassified	62	其他批发业	Other wholesale	81118	1.81	0.12 reclassified
reclassified	63	零售业	Retail trade	2571655	57.48	3.85 reclassified

reclassified	64	商业经纪与代理业	Commission trade	21692	0.48	0.03 into wholesale
reclassified	65	餐饮业	Catering services	856555	19.15	1.28 relocated
	IX	金融保险业	Finance and insurance	394752	100.00	0.59 new coverage
	66	金融业	Finance	340254	86.19	0.51 reclassified
	67	保险业	Insurance	54498	13.81	0.08
new coverage	X	房地产业	Real estate	154814	100.00	0.23
reclassified	68	房地产开发与经营业	Real estate development	71855	46.41	0.11 newly aggregated
reclassified	69	房地产管理业	Real estate administration	78219	50.52	0.12 newly aggregated
reclassified	70	房地产代理与经纪业	Real estate agencies	4740	3.06	0.01 newly aggregated
new	XI	社会服务业	Social services	1438738	100.00	2.15 reclassified
relocated, relabeled	71	公共服务业	Public services	424821	29.53	0.64 relabeled, relocated
relocated	72	居民服务业	Resident services	543993	37.81	0.81 relocated, expanded
reclassified from?	73	旅馆业	Hotels	205013	14.25	0.31 relocated, relabeled
reclassified from?	74	租赁服务业	Leasing	11181	0.78	0.02 relocated
reclassified from?	75	旅游业	Tourism	29549	2.05	0.04 relocated (to N cat.?)
reclassified from?	76	娱乐服务业	Entertainment	57397	3.99	0.09 relocated
relocated	77	信息, 咨询服务业	News and consulting	59435	4.13	0.09 dropped/ relabeled
reclassified from?	78	计算机应用服务业	Computer applications	30639	2.13	0.05 relocated
reclassified from?	79	其他社会服务业	Other social services	76710	5.33	0.11 relocated, relabeled
	XII	卫生, 体育和社会福利业	Health care, sports, and social welfare	709875	100.00	1.06 disaggregated, recl.
	80	卫生	Health care	676731	95.33	1.01 relocated
	81	体育	Sports	7411	1.04	0.01 relocated
relab. or expanded	82	社会福利保障业	Social welfare and insurance	25733	3.63	0.04 newly disaggregated
	XIII	教育, 文化艺术及广播电影电视业	Education, culture and arts, radio, film, and television	1710824	100.00	2.56 newly disaggregated
	83	教育	Education	1551969	90.71	2.32 relocated
	84	文化艺术业	Culture and arts	91415	5.34	0.14
	85	广播电影电视业	Radio, film, and television	67440	3.94	0.10 partly to G category
	XIV	科学研究和综合技术服务业	Scientific research and polytechnic services	149861	100.00	0.22 expanded coverage
	86	科学研究业	Scientific research	58928	39.32	0.09 relabeled
	87	综合技术服务业	Polytechnic services	90933	60.68	0.14 relabeled

	XV	国家机关, 党政机关和社会团体	Government agencies, Party agencies, and social organization	1572764	100.00	2.35 relabeled
	88	国家机关	Government agencies	1220264	77.59	1.82
	89	政党机关	Party agencies	74782	4.75	0.11 newly disaggregated
	90	社会团体	Social organizations	36971	2.35	0.06 relabeled
new	91	基层群众自治组织	Autonomous grassroots organizations	240747	15.31	0.36
	XVI	其他行业	Others	164039		0.25 dropped
	92	其他行业	Others	164039		0.25 dropped

This appendix presents the classification system in use in the long-form employment survey conducted as part of the 2000 population census.

Item 23, terms in [] are from the industry section of the *Statistical Yearbook*.

English language titles are in part from the industry section and from the NIPA section of the *Statistical Yearbook*.

The economy-wide number of laborers (rather than only the long-form number of laborers) can be obtained by multiplying by the ratio of the total population to the number of persons who filled in the long form (1,242,612,226 / 118,067,424).

Source: *Population Census 2000*, Vol. 2, pp. 881-934; with population values from Vol. 1, p. 215 and Vol. 2, p. 800; employment values are available only from the "long-form" survey of a subset of the total population. A category-by-category description of the main changes between GB1994 and GB2002 is provided in the first seven issues of the magazine *Zhongguo tongji* of 2003.

Appendix 4 Sectoral Classification System GB/T4754-2002 with Population Census 2010 Employment Values

Changes from GB1994			Long-form employ-ment 2010	Share of sub-group (in %)	Share of total (in %)	Changes in GB2011
Total			71547989		100.00	
A 农, 林, 牧, 渔业			Agriculture	34584219	100.00	48.34
	1	农业	Farming	32589211	94.23	45.55
	2	林业	Forestry	257471	0.74	0.36
	3	畜牧业	Animal husbandry	1278067	3.70	1.79
	4	渔业	Fisheries	314298	0.91	0.44
	5	农, 林, 牧, 渔服务业	Agricultural services	145172	0.42	0.20
B 采矿业			Mining and quarrying	809350	100.00	1.13 <i>expanded</i>
relabelled	6	煤炭开采和洗选业	Mining and washing of coal	472184	58.34	0.66
	7	石油和天然气开采业	Extraction of petroleum and natural gas	105240	13.00	0.15
	8	黑色金属矿采选业	Mining and processing of ferrous metal ores	59306	7.33	0.08
	9	有色金属矿采选业	Mining and processing of non-ferrous metal ores	73157	9.04	0.10
	10	非金属矿采选业	Mining and processing of nonmetal ores	89316	11.04	0.12
relabelled	11	其他采矿业	Mining of other ores	10147	1.25	0.01
	12	no entry	no entry			
C 制造业			Manufacturing	12059240	100.00	16.85 <i>expanded</i>
reclassified	13	农副食品加工业	Processing of food from agric. products	378733	3.14	0.53
	14	食品制造业	Manufacture of foods	338504	2.81	0.47
	15	饮料制造业	Manufacture of beverages	146924	1.22	0.21
	16	烟草制品业	Manufacture of tobacco	32233	0.27	0.05
	17	纺织业	Manufacture of textiles	929274	7.71	1.30
expanded/ relabelled?	18	纺织服装, 鞋, 帽制造业	Manufacture of textile, apparel, footwear, and caps	1479572	12.27	2.07
relabelled	19	皮革, 毛皮, 羽毛(绒)及其制品业	Manufacture of leather, fur, feather and related products	564748	4.68	0.79
						minor revision
						minor revision

	20	木材加工及木，竹，藤，棕，草制品业	Processing of timber, manufacture of wood, bamboo, rattan, palm, and straw products	331518	2.75	0.46	
	21	家具制造业	Manufacture of furniture	338628	2.81	0.47	
	22	造纸及纸制品业	Manufacture of paper and paper prod.	211748	1.76	0.30	
	23	印刷业和记录媒介的复制	Printing and recorded media	165900	1.38	0.23	
	24	文教体育用品制造业	Manufacture of articles for culture, education and sport activity	259050	2.15	0.36	expanded
expanded	25	石油加工，炼焦及核燃料加工业	Processing of petroleum, coking, processing of nuclear fuel	83589	0.69	0.12	
	26	化学原料及化学制品制造业	Manufacture of chemical raw materials and chemical products	398388	3.30	0.56	
	27	医药制造业	Manufacture of medicines	149573	1.24	0.21	
	28	化学纤维制造业	Manufacture of chemical fibers	41596	0.34	0.06	
	29	橡胶制品业	Manufacture of rubber	121711	1.01	0.17	29, 30 newly combined
	30	塑料制品业	Manufacture of plastics	342743	2.84	0.48	
	31	非金属矿物制品业	Manuf. of non-metallic mineral products	706986	5.86	0.99	
	32	黑色金属冶炼及压延加工业	Smelting and processing of ferrous metals	300187	2.49	0.42	
	33	有色金属冶炼及压延加工业	Smelting and processing of non-ferrous metals	145281	1.20	0.20	
	34	金属制品业	Manufacture of metal products	673244	5.58	0.94	
reabeled	35	通用设备制造业	Manufacture of general purpose machinery	699763	5.80	0.98	
	36	专用设备制造业	Manufacture of special purpose machinery	459008	3.81	0.64	
	37	交通运输设备制造业	Manufacture of transport equipment	629368	5.22	0.88	split into 2
	38	no entry	no entry				
	39	电气机械及器材制造业	Manufacture of electrical machinery and equipment	656313	5.44	0.92	
reabeled	40	通信设备，计算机及其他电子设备制造业	Manufacture of communication equipment, computers and other	888798	7.37	1.24	reabeled/ revised

reclassified	41	仪器仪表及文化, 办公 用机械制造业	electronic equipment Manufacture of measuring instruments and machinery for cultural activity and office work	167201	1.39	0.23	only: measuring instrum.
expanded, reabeled	42	工艺品及其他制造业	Manufacture of artwork and other manufacturing	330012	2.74	0.46	-> into/to new 24, 41
new	43	废弃资源和废旧材料回 收加工业	Recycling and disposal of waste	88647	0.74	0.12	reabeled/ revised
		D 电力, 燃气及水的生产和供应业	Utilities	495991	100.00	0.69	reabeled
new coverage?	44	电力, 热力的生产和供 应业	Production and distribution of electric power and heat power	373771	75.36	0.52	
	45	煤气生产和供应业	Production and distribution of gas	46714	9.42	0.07	
reabeled, expanded	46	水的生产和供应业	Production and distribution of tap water	75506	15.22	0.11	
		E 建筑业	Construction	3919862	100.00	5.48	
reclassified	47	房屋和土木工程建筑业	Construction of buildings, and civil engineering	2903099	74.06	4.06	2nd part as new categ.
newly disaggregated	48	建筑安装业	Renovation	223706	5.71	0.31	
newly disaggregated	49	建筑装饰业	Decoration	715783	18.26	1.00	
newly disaggregated	50	其他建筑业	Other construction	77274	1.97	0.11	folded into previous
reclassified		F 交通运输, 仓储和邮政业	Transport, storage, and postal services	2544704	100.00	3.56	
	51	铁路运输业	Railway transport	223215	8.77	0.31	
reabeled/ reduced?	52	道路运输业	Road transport	1355227	53.26	1.89	
from "public services"	53	城市公共交通过业	Urban public transport	471165	18.52	0.66	-> into 52 (new 54)
	54	水上运输业	Water transport	73118	2.87	0.10	
	55	航空运输业	Air transport	43768	1.72	0.06	
	56	管道运输业	Pipeline transport	4495	0.18	0.01	
newly aggregated	57	装卸搬运和其他运输服 务业	Loading/unloading, removal, and other transport services	214563	8.43	0.30	reabeled

	58	仓储业	Storage	71099	2.79	0.10	
	59	邮政业	Postal services	88054	3.46	0.12	
<i>new</i>	G	信息传输, 计算机服务和软件业	Information transfer, computer services, and software	439412	100.00	0.61	<i>reabeled/ revised?</i>
new	60	电信和其他信息传输服务业	Telecommunications and other information transfer services	274219	62.41	0.38	reabeled/ revised
relocated	61	计算机服务业	Computer services	72086	16.41	0.10	omitted
new	62	软件业	Software	93107	21.19	0.13	expansion
<i>new coverage</i>	H	批发和零售业	Wholesale and retail trades	6656937	100.00	9.30	
reclassified	63	批发业	Wholesale trade	1341148	20.15	1.87	
not listed	64						
reclassified	65	零售业	Retail trade	5315789	79.85	7.43	
<i>new</i>	I	住宿和餐饮业	Accommodation and catering	1953185	100.00	2.73	
relocated, reabeled	66	住宿业	Accommodation	321228	16.45	0.45	
relocated	67	餐饮业	Catering	1631957	83.55	2.28	
<i>new coverage</i>	J	金融业	Finance	581162	100.00	0.81	
reclassified	68	银行业	Banking	340234	58.54	0.48	reabeled
reclassified	69	证券业	Securities	34156	5.88	0.05	reabeled
	70	保险业	Insurance	159718	27.48	0.22	
reclassified	71	其他金融活动	Other financial activities	47054	8.10	0.07	
<i>new coverage</i>	K	房地产业	Real estate	481021	100.00	0.67	
newly aggregated	72	房地产业	Real estate	481021	100.00	0.67	
<i>new</i>	L	租赁和商务服务业	Leasing and commercial services	491322	100.00	0.69	
relocated	73	租赁业	Leasing	39510	8.04	0.06	
new	74	商务服务业	Commercial services	451812	91.96	0.63	
<i>expanded coverage</i>	M	科学研究, 技术服务和地质勘查业	Scientific research, polytechnic services, and geological prospecting	229615	100.00	0.32	<i>reduced</i>
reabeled	75	研究与实验发展	Research and experimental development	65755	28.64	0.09	
reabeled	76	专业技术服务业	Polytechnic services	111617	48.61	0.16	
new	77	科技交流和推广服务业	Scientific exchange and distribution	21665	9.44	0.03	reabeled
relocated	78	地质勘查业	Geological prospecting	30578	13.32	0.04	into new 74

<i>new</i>	N	水利, 环境和公共设施管理业	Administration of water, environment, and public facilities	267564	100.00	0.37	
relocated	79	水利管理业	Water management (conservancy)	44327	16.57	0.06	
new	80	环境管理业	Environmental management	124304	46.46	0.17	relocated
relocated, relocated	81	公共设施管理业	Management of public facilities	98933	36.98	0.14	
<i>new</i>	O	居民服务和其他服务业	Resident and other services	1387990	100.00	1.94	
relocated, expanded	82	居民服务业	Resident services	822169	59.23	1.15	
relocated, relocated	83	其他服务业	Other services	565821	40.77	0.79	
<i>new</i>	P	教育	Education	1650999	100.00	2.31	
relocated	84	教育	Education	1650999	100.00	2.31	
<i>newly disaggr., reclassified</i>	Q	卫生, 社会保障和社会福利业	Health care, social insurance / welfare	834040	100.00	1.17	<i>reduced</i>
relocated	85	卫生	Health care	802859	96.26	1.12	
newly disaggregated	86	社会保障业	Social insurance	13484	1.62	0.02	new 93
newly disaggregated	87	社会福利业	Social welfare	17697	2.12	0.02	into new 84
<i>newly disaggregated</i>	R	文化, 体育和娱乐业	Culture, sports, and entertainment	324501	100.00	0.45	
new / relabeled	88	新闻出版业	News and publishing	54136	16.68	0.08	
relocated, expanded	89	广播, 电视, 电影和音像业	Radio, film, television, and (other) audio-visual media	69010	21.27	0.10	relocated
relocated	90	文化艺术业	Culture and arts	51070	15.74	0.07	
relocated	91	体育	Sports	13804	4.25	0.02	
relocated	92	娱乐业	Entertainment	136481	42.06	0.19	
<i>relocated</i>	S	公共管理和社会组织	Public administration and social organizations	1836217	100.00	2.57	<i>expanded</i>
newly disaggregated	93	中国共产党机关	Chinese Communist Party organs	21558	1.17	0.03	
	94	国家机构	State institutions	1520464	82.80	2.13	
new	95	人民政协和民主党派	People's Political Consultative Conference and democratic parties	8103	0.44	0.01	

newly disaggregated	96	群众团体, 社会团体和 宗教组织	Mass and social organizations, and religious organizations	53217	2.90	0.07	reabeled
	97	基层群众自治组织	Autonomous grassroots organizations	232875	12.68	0.33	
new	T	国际组织	International organizations	658	100.00	0.00	
new	98	国际组织	International organizations	658	100.00	0.00	

Sectors 12 and 38 are omitted in the source, with the numbering scheme indicating the omission.

English language titles are in part from the industry section and from the NIPA section of the *Statistical Yearbook*.

The 2002 classification became effective on 1 Oct. 2002 (National Quality and Technology Supervision Office, 22 July 2002). The classification scheme of 1985 (presumably 1984) was invalidated (NBS, 14 May 2003).

“Relabeled:” there appears to be no change in content—though a change cannot absolutely be ruled out when sub-category labels also changed.

“Revised:” the new label indicates a change in content.

In the labels of a dozen categories, one Chinese character for the word ‘and’ was replaced by another character for the same word ‘and’ (及 becomes 和); such changes are not noted here. The same holds for a very few other changes in Chinese characters.

For categories 18 and 19, it seems that the GB2011 reshuffled some three-digit categories between these two categories.

Source: *Population Census 2010*, at <http://www.stats.gov.cn> (accessed 24 October 2012); employment values are available only from the “long-form” survey of a subset of the total population. Classification system: NBS, 14 May 2003. A category-by-category description of the main changes from GB1994 is provided in the first seven issues of the magazine *Zhongguo tongji* of 2003.

Appendix 5 Sectoral Classification System GB/T4754-2011

Changes from
GB2002

	A	农, 林, 牧, 渔业	Agriculture
	1	农业	Farming
	2	林业	Forestry
	3	畜牧业	Animal husbandry
	4	渔业	Fisheries
	5	农, 林, 牧, 渔服务业	Agricultural services
<i>expanded</i>	B	采矿业	Mining and quarrying
	6	煤炭开采和洗选业	Mining and washing of coal
	7	石油和天然气开采业	Extraction of petroleum and natural gas
	8	黑色金属矿采选业	Mining and processing of ferrous metal ores
	9	有色金属矿采选业	Mining and processing of non-ferrous metal ores
	10	非金属矿采选业	Mining and processing of nonmetal ores
new	11	开采辅助活动	Ancillary mining activities
	12	其他采矿业	Mining of other ores
<i>expanded</i>	C	制造业	Manufacturing
	13	农副食品加工业	Processing of food from agric. products
	14	食品制造业	Manufacture of foods
relabeled	15	酒, 饮料和精制茶制造业	Manufacture of alcohol, beverages, and refined tea
	16	烟草制品业	Manufacture of tobacco
	17	纺织业	Manufacture of textiles
minor revision	18	纺织服装, 服饰业	Manufacture of textiles, clothing; apparel industry
minor revision	19	皮革, 毛皮, 羽毛及其制品和制鞋业	Manufacture of leather, fur, feather and related products; footwear industry
	20	木材加工和木, 竹, 藤, 棕, 草制品业	Processing of timber, manufacture of wood, bamboo, rattan, palm, and straw products
	21	家具制造业	Manufacture of furniture
	22	造纸和纸制品业	Manufacture of paper and paper prod.
	23	印刷和记录媒介复制业	Printing and recorded media
newly includes part of old 42	24	文教, 工美, 体育和娱乐用品制造业	Manufacture of articles for culture, education, art, sports, and entertainment
	25	石油加工, 炼焦和核燃料加工业	Processing of petroleum, coking, processing of nuclear fuel
	26	化学原料和化学制品制造业	Manufacture of chemical raw materials and chemical products
	27	医药制造业	Manufacture of medicines

	28	化学纤维制造业	Manufacture of chemical fibers
previously split	29	橡胶和塑料制品业	Manufacture of rubber and plastics
	30	非金属矿物制品业	Manuf. of non-metallic mineral products
	31	黑色金属冶炼和压延加工业	Smelting and processing of ferrous metals
	32	有色金属冶炼和压延加工业	Smelting and processing of non-ferrous metals
	33	金属制品业	Manufacture of metal products
	34	通用设备制造业	Manufacture of general purpose machinery
	35	专用设备制造业	Manufacture of special purpose machinery
36, 37	36	汽车制造业	Manufacture of automobiles
previously combined	37	铁路, 船舶, 航空航天和其他运输设备制造业	Manufacture of railway, ships, aerospace and other transportation equipment
	38	电气机械及器材制造业	Manufacture of electrical machinery and equipment
reabeled/ revised	39	计算机, 通信和其他电子设备制造业	Manufacture of computers, communication and other electronic equipment
reduced	40	仪器仪表制造业	Manufacture of measuring instruments
reduced	41	其他制造业	Other manufacturing
reabeled/ revised	42	废弃资源综合利用业	Comprehensive use of waste resources
new	43	金属制品, 机械和设备修理业	Repair of metal products, machinery and equipment
<i>reabeled</i>	D	电力, 热力, 燃气及水生产和供应业	Utilities
	44	电力, 热力生产和供应业	Production and distribution of electric power and heat power
	45	煤气生产和供应业	Production and distribution of gas
	46	水的生产和供应业	Production and distribution of tap water
	E	建筑业	Construction
47, 48 previous- ly combined	47	房屋建筑业	Construction of buildings
	48	土木工程建筑业	Civil engineering
	49	建筑安装业	Renovation
previously split	50	建筑装饰和其他建筑业	Decoration
	F	批发和零售业	Wholesale and retail trades
	51	批发业	Wholesale trade
	52	零售业	Retail trade
reduced	G	交通运输, 仓储和邮政业	Transport, storage, and postal services
	53	铁路运输业	Railway transport
	54	道路运输业	Road transport
	55	水上运输业	Water transport

	56	航空运输业	Air transport
	57	管道运输业	Pipeline transport
relabeled	58	装卸搬运和运输代理业	Loading/unloading, removal, and other transport services
	59	仓储业	Storage
	60	邮政业	Postal services
		H 住宿和餐饮业	Accommodation and catering
	61	住宿业	Accommodation
	62	餐饮业	Catering
<i>relabeled/ revised?</i>		I 信息传输, 软件和信息技术服务业	Information transfer, software and information technology services
relabeled/ revised?	63	电信, 广播电视和卫星传输服务	Telecommunications, radio, television, and satellite transmission services
new category	64	互联网和相关服务	Internet and related services
expanded	65	软件和信息技术服务业	Software and information technology services
		J 金融业	Finance
relabeled	66	货币金融服务	Monetary and financial services
relabeled	67	资本市场服务	Capital markets services
	68	保险业	Insurance
	69	其他金融业	Other financial activities
		K 房地产业	Real estate
	70	房地产业	Real estate
		L 租赁和商务服务业	Leasing and commercial services
	71	租赁业	Leasing
	72	商务服务业	Commercial services
<i>reduced</i>		M 科学研究和技术服务业	Scientific research and polytechnic services
	73	研究和实验发展	Research and experimental development
	74	专业技术服务业	Polytechnic services
relabeled	75	科技推广和应用服务业	Science and technology promotion and application
		N 水利, 环境和公共设施管理业	Administration of water, environment, and public facilities
	76	水利管理业	Water management (conservancy)
relabeled	77	生态保护和环境治理业	Ecological protection and environmental management
	78	公共设施管理业	Management of public facilities
		O 居民服务, 修理和其他其他服务业	Resident, repair and other services
	79	居民服务业	Resident services
previously part of 81 (old 83)	80	机动车, 电子产品和日用产品修理业	Repair of motor vehicles, electronics and household products

	81	其他服务业	Other services
		P 教育	Education
	82	教育	Education
<i>reduced</i>		Q 卫生和社会工作	Health care and social work
	83	卫生	Health care
new/ reduced	84	社会工作	Social work
		R 文化, 体育和娱乐业	Culture, sports, and entertainment
	85	新闻和出版业	News and publishing
relabeled	86	广播, 电视, 电影和影 视录音制作业	Radio, television, film, and television recording and production
	87	文化艺术业	Culture and arts
	88	体育	Sports
	89	娱乐业	Entertainment
<i>expanded</i>		S 公共管理, 社会保障和社会 组织	Public administration, social insurance, and social organizations
	90	中国共产党机关	Chinese Communist Party organs
	91	国家机构	State institutions
	92	人民政协, 民主党派	People's Political Consultative Conference and democratic parties
new	93	社会保障	Social insurance
relabeled	94	群众团体, 社会团体和 其他成员组织	Mass and social organizations, and other membership organizations
	95	基层群众自治组织	Autonomous grassroots organizations
		T 国际组织	International organizations
	96	国际组织	International organizations

No employment data following this detailed classification are (yet) available.

The 2011 classification became effective on 1 Nov. 2011 and has been incorporated in the statistics of 2012 (see, for example, the monthly industry statistics at the NBS website, <http://www.stats.gov.cn>, accessed 26 October 2012).

Source: <http://www.stats.gov.cn> (or in one file at <http://www.315club.net/thread-4917-1-1.html>), both accessed 25 October 2012.

Appendix 6 ISIC Rev. 3.1

- A - Agriculture, hunting and forestry
 - 01 - Agriculture, hunting and related service activities
 - 02 - Forestry, logging and related service activities
- B - Fishing
 - 05 - Fishing, aquaculture and service activities incidental to fishing
- C - Mining and quarrying
 - 10 - Mining of coal and lignite; extraction of peat
 - 11 - Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
 - 12 - Mining of uranium and thorium ores
 - 13 - Mining of metal ores
 - 14 - Other mining and quarrying
- D - Manufacturing
 - 15 - Manufacture of food products and beverages
 - 16 - Manufacture of tobacco products
 - 17 - Manufacture of textiles
 - 18 - Manufacture of wearing apparel; dressing and dyeing of fur
 - 19 - Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
 - 20 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
 - 21 - Manufacture of paper and paper products
 - 22 - Publishing, printing and reproduction of recorded media
 - 23 - Manufacture of coke, refined petroleum products and nuclear fuel
 - 24 - Manufacture of chemicals and chemical products
 - 25 - Manufacture of rubber and plastics products
 - 26 - Manufacture of other non-metallic mineral products
 - 27 - Manufacture of basic metals
 - 28 - Manufacture of fabricated metal products, except machinery and equipment
 - 29 - Manufacture of machinery and equipment n.e.c.
 - 30 - Manufacture of office, accounting and computing machinery
 - 31 - Manufacture of electrical machinery and apparatus n.e.c.
 - 32 - Manufacture of radio, television and communication equipment and apparatus
 - 33 - Manufacture of medical, precision and optical instruments, watches and clocks
 - 34 - Manufacture of motor vehicles, trailers and semi-trailers
 - 35 - Manufacture of other transport equipment
 - 36 - Manufacture of furniture; manufacturing n.e.c.
 - 37 - Recycling
- E - Electricity, gas and water supply
 - 40 - Electricity, gas, steam and hot water supply
 - 41 - Collection, purification and distribution of water
- F - Construction
 - 45 - Construction
- G - Wholesale and retail trades; repair of motor vehicles, motorcycles and personal and household goods
 - 50 - Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
 - 51 - Wholesale trade and commission trade, except of motor vehicles and motorcycles
 - 52 - Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- H - Hotels and restaurants

- 55 - Hotels and restaurants
- I - Transport, storage and communications
 - 60 - Land transport; transport via pipelines
 - 61 - Water transport
 - 62 - Air transport
 - 63 - Supporting and auxiliary transport activities; activities of travel agencies
 - 64 - Post and telecommunications
- J - Financial intermediation
 - 65 - Financial intermediation, except insurance and pension funding
 - 66 - Insurance and pension funding, except compulsory social security
 - 67 - Activities auxiliary to financial intermediation
- K - Real estate, renting and business activities
 - 70 - Real estate activities
 - 71 - Renting of machinery and equipment without operator and of personal and household goods
 - 72 - Computer and related activities
 - 73 - Research and development
 - 74 - Other business activities
- L - Public administration and defence; compulsory social security
 - 75 - Public administration and defence; compulsory social security
- M - Education
 - 80 - Education
- N - Health and social work
 - 85 - Health and social work
- O - Other community, social and personal service activities
 - 90 - Sewage and refuse disposal, sanitation and similar activities
 - 91 - Activities of membership organizations n.e.c.
 - 92 - Recreational, cultural and sporting activities
 - 93 - Other service activities
- P - Activities of private households as employers and undifferentiated production activities of private households
 - 95 - Activities of private households as employers of domestic staff
 - 96 - Undifferentiated goods-producing activities of private households for own use
 - 97 - Undifferentiated service-producing activities of private households for own use
- Q - Extraterritorial organizations and bodies
 - 99 - Extraterritorial organizations and bodies

Source: <http://unstats.un.org/UNSD/cr/registry/regcst.asp?Cl=17&Lg=1>, accessed 7 June 2006.

References

¹ GB1984 is reproduced in an internal compendium of statistics regulations (NBS, 1988, pp. 623-702). For GB2002, a list of two-digit and three-digit categories (of the complete four-digit classification) is available in the online rules and regulations database of *China Infobank* (NBS, 14 May 2003). A complete list of four-digit sectors was available on the NBS website in separate pdf files for all two-digit sectors (<http://www.stats.gov.cn>, accessed on 16 January 2008) prior to the issuing of GB2011. GB2002 was also published in form of a book, with detailed explanations, as NBS (2008). GB2011 is now available online (<http://www.stats.gov.cn>, accessed on 23 October 2012), and has also been published as a book (NBS, 2011).

² According to the magazine *Zhongguo tongji* (no. 1, January 2003, p. 26), at the fourth level, the classification largely matches that of ISIC Rev. 3, with a more refined breakdown in GB2002 in some cases, and a less refined breakdown in other cases. The NBS reports that it has the correspondences between GB2002 and ISIC Rev. 3 programmed into its computer system so that it can easily produce sectoral statistics that match ISIC Rev. 3, while its regularly published statistics follow GB2002. Out of the twenty two-digit sectors in GB2002, ten are reported to match a ISIC Rev. 3 one-digit sector.

³ These are ‘logging and transport of timber and bamboo’ (previously a sector within ‘quarrying and mining’), and ‘preliminary processing of textile fibers’ (previously a sector of the ‘textile industry,’ which in turn is part of ‘manufacturing’).

⁴ An article at <http://baike.baidu.com/view/4301731.htm>, accessed on 24 October 2012, provides an overview of the changes.

⁵ Employee stock cooperatives, or just “stock cooperatives,” are sometimes also called “employee shareholding companies;” these are *not* companies established in accordance with China’s Company Law.

⁶ Control can come in two forms. Absolute state control (*guoyou juehui konggu*) implies that the state holds more than 50 percent of total capital (*ziben*). Relative state control (*guoyou xiangdui konggu*) implies that although the state holds less than 50 percent of total capital, (i) the state share is relatively large compared to the shares of other ownership categories, i.e., “relative state control” in its narrow meaning (*xiangdui konggu*), or (ii) even though one or more other ownership categories have a larger capital share than the state, the state in effect holds the control rights by agreement (*xieyi kongzhi*). Both forms of state-controlled companies are included.

⁷ An even larger “state” category than the SOSCEs, with one further component, appears to have been abandoned in the published statistics. The further component consists of all (other) enterprises in which the state has a stake (or companies in which the state has less than a controlling stake), with the economic data counted towards the SOE category in proportion to the state’s equity share, where the share of legal persons in paid-in capital is ignored for the purpose of the calculation. For details, see Carsten Holz and Yi-min Lin (2001b).

⁸ The official new DRIE definition of 1998 neither mentions the SOSCEs nor the limitation to enterprises with “independent accounting systems” (*Statistical Yearbook 1999*, p. 419). The inclusion of all SOSCEs is apparent from their being listed as a sub-category of the DRIEs (p. 426). The limitation to enterprises with independent account systems is originally only being hinted at (*Statistical Yearbook 1999*, p. 448), but then becomes clearer in subsequent issues of the *Statistical Yearbook*: the DRIE statistics are limited to legal-person enterprises with independent accounting systems (for example, *Statistical Yearbook 2012*, p. 558).

⁹ For the two redefinitions of 2005 and 2007 see *Statistical Yearbook 2006*, p. 504, and *Statistical Yearbook 2008*, p. 484 (or the note at the bottom of p. 485).

¹⁰ For the difference between sales revenue and revenue from principal business, see, for example, *Industrial Yearbook 2007*, pp. 54 and 58.

¹¹ A note on p. 501 of the *Statistical Yearbook 2012* reads: “Industrial enterprises above designated size are all state-owned enterprises and non-state owned enterprises with annual revenue from principal business over 5m yuan from 1998 to 2006, from 2007 to 2010 industrial enterprises with annual revenue from principal business over 5m yuan, and since 2011 industrial enterprises with revenue from principal business in excess of 20m yuan.” This statement contradicts the definitions provided in several earlier issues of the *Statistical Yearbook* in that prior to 2005, the criterion was based on “sales revenue” rather than on “revenue from principal business.”

¹² The 2008 economic census did not lead to any revisions to the number of enterprises or employees, or to changes in balance sheet and profit and loss account items. GOV was revised downward by 0.03 percent; value-added data are no longer published.

¹³ The 2004 economic census (*Economic Census 2004*, first secondary sector volume, pp. 2, 7, 10 and 101) suggests that even before the redefinition of the DRIEs in 2007, the DRIEs did not include *all* SOSCEs (but nearly

all). All traditional SOEs (as listed in the table on all industrial enterprises) vs. the traditional SOEs included in the DRIE category numbered 25,339 vs. 23,417, with GOV of 2.35 vs. 2.34 trillion yuan, and with employment of 8.92 vs. 8.84 m laborers. For the state joint operation enterprises, the comparison numbers are 6547 vs. 1439 enterprises, 103 vs. 93b yuan GOV, and 98,500 vs. 81,500 laborers. For the solely state-owned limited liability companies, the comparison numbers are 2083 vs. 1449 enterprises, 996 vs. 995 b yuan GOV, and 3.70 vs. 3.67m laborers. Details on limited liability companies with controlling but less than 100% state ownership and on state-owned stock companies are not available; presumably, these are all large enough to be included in the DRIEs. In terms of GOV, the aggregate difference based on the available data (three categories with data above) is approximately 0.6 percentage points, and this difference would presumably be yet smaller if data on the missing two categories were available and included. The effect of the 2007 redefinition of the DRIEs on the coverage of the SOSCEs is unclear; the 2004 economic census data suggest that it could well be the case that the size criterion de facto applied to the SOSCEs even before 2007.

¹⁴ DRIE nominal value-added rose 68 percent in 1993. The ratio of DRIE value-added to DRIE GOV jumped 17 percent in 1993 before dropping almost as much in the following year (1992-1994: 0.2764, 0.3235, 0.2863).

¹⁵ The growth rates in nominal industrial value-added of 1993 through 1995 are 38, 37, and 28 percent, while the ex-factory price index of these years is 24, 20, and 15 percent; i.e., real and nominal growth rates are all plausible.

¹⁶ In detail, according to one definition, GOV equals sales revenue, plus self-produced self-utilized products and equipment, plus already completed but not yet delivered products, plus changes to the inventories of semi-finished products. (*Economics Dictionary: Statistics*, p. 168)

¹⁷ The maximum-length time series values for all industry (starting 1978) as well as for the DRIEs following the new size definition are used. (DRIE values following the pre-1998 definition are available for 1992 through 1997 and yield very similar values as the economy-wide values, with the exception of 1993, when the already noted high DRIE value-added value lowers the ratio to 3.09.) Data on all industry are taken from the *Industrial Yearbook 2001*, p. 8 (economy-wide industrial value-added) and p. 22 (economy-wide GOV). Starting in 1996, the GOV data follow the new stipulations, with a statistical break on the order of (a decline by) 10 percent (based on comparable data following the old vs. new stipulations for 1995 in *Statistical Yearbook 1997*, p. 413). For all years 1978-1999, for all of industry, ignoring the statistical break, the minimum ratio of GOV to value-added is 2.58, the maximum ratio 3.72, the average is 3.13, and the coefficient of variation 0.12; the ratio increases from around 2.6 in the early 1980s to around 3.5 in the late 1980s, and then remains around 3.5 throughout all remaining years. Data on the DRIE are taken from the *Statistical Yearbook 2008*, p. 492.

¹⁸ The previous industrial census of 1985 (*Industrial Census 1985*) comes with sectoral data only on the DRIEs, which in 1985 accounted for 87 percent of GOV (pp. 3, 44). In 1980, the DRIEs accounted for 91 percent of GOV (*Industrial Yearbook 1993*, pp. 17, 142), and in 1999, the most recent year for which economy-wide GOV is available (except as summed provincial values in *GDP 1996-2002* or *GDP 1992-2004*), for 58 percent (*Statistical Yearbook 2000*, pp. 409, 414).

¹⁹ In 1995, data would further be available for “paid-in capital” and for “taxes payable.” The range of variables on which data are available for (near-) “all” industry is slightly larger in 2004 and 2008.

²⁰ Only rarely does significance (or no significance) depend on the inclusion vs. exclusion of the monopoly sectors. If the inclusion of such a small number of monopoly sectors does indeed sway a finding, then it seems appropriate to omit the monopoly sectors—the DRIEs are “representative” of the monopoly sectors simply due to their dominance of that sector.

²¹ *Economic Census 2004*, Vol. “Secondary Sector, first volume,” pp. 2 and 10; *Statistical Yearbook 2007*, pp. 57, 508 (for value-added data).

²² Value-added data are available for the DRIEs. The value-added of DRIEs in a particular sector as a share of all DRIE value-added (not: sectoral value-added) is positively correlated with the DRIE value-added per enterprise (at the 0.1% significance level), with or without the three monopoly sectors.

²³ The provincial statistical yearbooks usually come with the title *Province-name Statistical Yearbook*; in the case of Hebei Province, the title is *Hebei jingji tongji nianjian* (*Hebei Economic Statistical Yearbook*), and in the case of Gansu Province, the title is *Gansu nianjian* (*Gansu Yearbook*).

²⁴ The NBS website is browser-sensitive. Some webpages, especially individual *Statistical Yearbook* pages, may not open in Firefox; Internet Explorer appears to be working without flaws.

²⁵ Domestically, hard copies of NBS publications can be purchased from the NBS. The NBS website (www.stats.gov.cn) has a link to its publishing house, which in turn provides contact telephone numbers for purchases and lists the addresses of its two bookshops (one located on the East side of the NBS headquarters in

Beijing). Internationally, Asia Economic Information & Consultancy Limited, located in Hong Kong, in the author's experience reliably supplies the full range of NBS publications (contact asiaeconinfo@yahoo.com.hk).

²⁶ The statistical communiqué is published before the annual meeting of the National People's Congress and the publication of the annual economic and social development plan for the current year. The statistical bulletin focuses on the just completed year and usually does not publish revised figures for the previous year. The NBS also publishes statistical communiqués on other, specific topics, at irregular intervals.

²⁷ Two of the 25 sections are on Hong Kong and Macao. Two appendices cover Taiwan and a world comparison of countries.

²⁸ On the publication practice for GDP, also see OECD (2000, p 11).

²⁹ The holdings of Chinese statistical publications in libraries, from the China library at Chinese University of Hong Kong (the 'Universities Service Center') and the Library of Congress to the libraries of some of the best universities in the West, are incomplete for most publications series. Their bibliographic records of what has been published (but is not necessarily held by the particular library) differ at times, as does the recording of which issues of a series are bilingual. While I have checked the physical copies of most issues of most series, I have not been able to check every single one.

³⁰ For each of the approximately 500 industrial sectors, the total values for nine variables are reported, as are the values for state-owned enterprises, collective-owned enterprises, and foreign and overseas Chinese funded enterprises. These three ownership categories are not exhaustive (the sum of the three values, for any particular variable, does not add up to the total). The ownership category "state-owned enterprises" comprises only the unreformed SOEs (or the unreformed SOEs, SOE-SOE joint enterprises, and 100 percent state-owned limited liability companies).

³¹ Zhou Yixing and Laurence Ma (2005, p. 276) state that this source became public in 2001 only and "has long been published for internal use" in the years before.

³² Also see Susan Xue (2004) for a list of (non-statistical) yearbooks published by ministries and commissions.

³³ See, for the example, the *China Rural Poverty Report (Zhongguo nongcun pinkun jiance baogao)*, published annually by the NBS since 2000.

³⁴ The NBS release dates of key monthly data are published on the inside back page of recent issues of *China Monthly Statistics*.

³⁵ Researchers report difficulties in working with longitudinal industrial enterprise data as approximately 10 percent of enterprise identifiers change in any given year due to changes in the ownership classification of a particular enterprise, or in its address, or in its industry classification, or in its size classification (large, with three sub-categories, medium, small).

³⁶ Disaggregated, individual-level data from the annual household income and expenditure surveys conducted by the NBS appear only exceptionally available to researchers. According to Ding and Knight (2012, p. 218), the NBS income definition in these surveys excludes the value of owner-occupied housing and undercounts subsidies, including housing subsidies.

³⁷ See <http://www.usc.cuhk.edu.hk/DCS/Catalog.aspx>, accessed 13 November 2012, and if this particular page should ever disappear, find their data catalog via their main page <http://www.usc.cuhk.edu.hk>.

³⁸ See <http://chinadatacenter.org/>, accessed 13 November 2012.

³⁹ See http://www.socwork.gu.se/english/research/Poverty/China_Household/, accessed 13 November 2012. The CHIP surveys cover the years 1998, 1995, 2002, and 2007. According to Ding and Knight (2012, pp. 218, 215), in contrast to the NBS household survey income measure, the CHIP definition includes housing-related income components and more fully captures subsidies; furthermore, while the NBS practice is to exclude from the urban sample households with rural household registration, the CHIP surveys of 2002 and 2007 include separate samples on rural-urban migrants, in 2002 with sampling based on households and confined to migrant households, and in 2007 with sampling based on employment.

⁴⁰ See <http://charls.ccer.edu.cn/charls/>, accessed 13 November 2012.

⁴¹ *Fifty Years* reports only scarce data on Hainan and Chongqing: some of the Hainan data only start in 1978, while Chongqing data are available for the years 1996-1998 only. In *Fifty-five Years* and *Sixty Years*, many of the pre-1978 data gaps for Hainan have been filled, while Chongqing data start, depending on the variable, in 1949, 1952, 1978, or in some later year of the reform period.

⁴² Elsewhere, the first, minimal set of reform period NIPA data, following the System of National Accounts, appeared in the *Statistical Yearbook 1988*, covering the years since 1978.