Business Establishment Employment Data:
NETS versus ES-202

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Many researchers require comprehensive and accurate data that measures U.S. and regional employment or tracks business-level employment and location in order to execute their projects. Before 2004 most researchers had no viable option other than relying upon state and federal data. Most government employment statistics are based on ES-202 unemployment insurance filings made quarterly by employers. These are collected by state employment security agencies and submitted to the Bureau of Labor Statistics (BLS), which then uses them as the basis for datasets, such as the Quarterly Census of Employment and Wages (QCEW) and the Current Employment Statistics survey (CES) among others. Unfortunately, ES-202 data and related statistics suffer from a number of problems that raise serious questions regarding coverage and reliability. Fortunately, researchers now have an option for establishment and regional employment data — the National Establishment Time-Series (NETS) Database — which offers an exceptionally deep view of employment dynamics in the economy.

Before researchers decide which sources of employment and business-level information they will use in their studies, they should review some of the evidence regarding the strengths and limitations of NETS versus alternative government sources. While NETS has its own limitations, it stands up well in direct comparison with ES-202 data, offering researchers many advantages over traditional sources. This paper discusses some of the key attributes of NETS and how it compares to data from leading government sources, as well as a critique of data based on ES-202 filings.

Who uses NETS?

In 2004, researchers at the University of California at Berkley published the first research paper which used NETS, applying it to measure agglomeration economies in California's computer industry (Wallace & Walls, 2004). Since then more than 60 other studies have been released through peer-reviewed journals, in-house publications and conference papers. Researchers in a wide range of disciplines have begun to embrace the NETS data, experimenting with how it can be applied in their research projects, subjecting it to comparisons against alternative data sources and justifying its value as a research tool to peers and to leading research, policy and economic development organizations.

> These journals have published studies using NETS:
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> - Academy of Management Perspectives
> - Journal of Law and Economics
> - Journal of Policy Analysis and Management
> - Journal of Regional Science
> - Journal of Urban Economics
> - Management Science
> - Research in Labor Economics

NETS and its strengths

NETS allows researchers to examine longitudinal establishment-level employment at a granular level. NETS covers nearly every U.S. business unit that has operated in the United States over the past two decades, including sole proprietors, small privately-owned firms, farms, nonprofit organizations and public sector establishments, such as post offices and public schools. Because there are no confidentiality constraints with NETS, individual establishments can be identified and tracked over time. Researchers also have the unique ability to measure employment trends down to the finest geographic scale possible, using county FIPS, zip codes, street addresses, and longitude/latitude for each establishment. No other dataset allows such a micro view of employment dynamics within the economy with as few restrictions of use.

NETS is compiled annually by Walls and Associates using Dun and Bradstreet's (D&B's) Market Identifier (DMI) files[1]. These DMI files contain information on more than 100 variables related to firm demographics (such as age, location, industry and ownership), operations (corporate structure, secondary and tertiary Standard Industrial Classification codes, relocations) and performance (including employees and estimated revenues).

D&B, as part of its global business credit rating service, tracks more than 60 million businesses located in more than 200 countries each year. D&B updates the DMI records for each establishment through more than 100 million telephone calls made annually from four call centers, as well as from legal and bankruptcy filings, press reports, utilities, government and U.S. Postal Service records, and payment and collection activities (Acs, Parsons and Tracy, 2008). D&B uses a variety of proprietary data cleaning processes to cross-check and standardize the data in order to improve its reliability. These processes have been greatly improved over the past two decades and are now augmented with further screening by Walls & Associates.

Scholars at these institutions have published studies using NETS:

- Clark University
- Claremont McKenna College
- Columbia University
- Harvard University
- Institute for the Study of Labor (IZA)
- Iowa State University
- MIT Sloan School
- National Bureau of Economic Research (NBER)
- National League of Cities
- Pioneer Institute of Public Policy, Massachusetts
- Public Policy Institute of California
- Rutgers University
- Stanford University
- Syracuse University
- University of California, Berkeley
- University of California, Irvine
- University of New Mexico
- University of North Carolina, Charlotte
- University of Southern California
- University of Toronto

D&B assigns a unique DUNS (Data Universal Number System) number to every establishment. It then reports annual operating information for each of these businesses, retiring the DUNS number once an establishment dies. The DUNS number allows D&B to

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[1] For more information on DMI files, see http://library.dialog.com/bluesheets/pdf/bl0516.pdf. For more information on NETS and Walls and Associates, see http://www.youreconomy.org/nets/?region=Walls.

link the employment, location and operating profiles of companies across their parent organizations. Walls & Associates, under contract with D&B, obtains annual updates for all DMI files. It uses the DUNS number to create a time-series for each company by linking these annual files based on the DUNS number. Walls & Associates then applies a proprietary screening system to eliminate duplicates and identify reporting anomalies in the records. If a file contains suspicious information, Walls & Associates cross-checks the information with previous annual records and adjusts the data based on their estimate or they eliminate the record. A variable identifies each file that has been altered and reports how the change was made.

Critique of D&B data

It is the responsibility of researchers to question the limitations of their data. This should extend to both government-sourced data as well as to emerging alternatives such as NETS. When NETS first became available scholars immediately began subjecting NETS to a rigorous suite of tests. They evaluated its coverage and accuracy by comparing it to the only similar data source: statistics released by the BLS that are based primarily on ES-202 filings.

These tests of the NETS data were primarily designed to address several critiques of D&B-sourced data, which formed the basis of breakthrough research on job creation in the 1980s. David Birch, a pioneer researcher in the field of small business growth studies, used a dataset similar to NETS which he compiled using D&B's DMI files on a biannual basis between 1969 and 1986 (Birch, 1987). Birch's findings were widely quoted by the U.S. Small Business Administration (SBA) and others as evidence that small businesses create the vast majority of new jobs in the U.S. economy.

> These organizations have contracted research using NETS:
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> - Edward Lowe Foundation
> - National Governors Association
> - Pew Charitable Trusts
> - Team Pennsylvania Foundation
> - Silicon Valley Community Foundation
> - State of California

Several scholars harshly criticized the use of DMI data by Birch and the SBA (Davis, Haltiwanger and Schub, 1998). They presented three main arguments. First, DMI records are unsuitable for regional employment research because they are prepared for commercial purposes rather than as a tool for statistical analysis. Second, DMI files do not adequately account for establishment births, nor do they accurately track younger firms. Finally, there are discrepancies in the total U.S. employment figures cited by DMI files when compared with statistics published by the BLS.

Critique 1: commercial datasets unfit for analysis

Although D&B sells business information, they are not in the economic data generation business. They do not smooth their data through seasonal revisions or by comparing it with other macroeconomic trends as is done with ES-202 data by state agencies and BLS, as discussed below. Walls and Associates simply conducts checks on the validity of the data and scrub it of anomalies, such as missing data and miscoded information. Hence, NETS can be considered to be raw business census data. Neither D&B nor Walls and Associates make any further claims.

Acs, Parsons and Tracy (2008) comment, "Although D&B does not collect data for scholarly research, it does have an incentive to ensure its accuracy, as inaccuracies would jeopardize D&B's core business and might result in lawsuits" (page 17). They note that any disadvantages to using DMI data are sufficiently offset by the unique value it offers. For example, unlike federal statistics, NETS allows researchers to fully decompose the source of employment changes into its components: establishment births, deaths, expansions, contractions and relocations into and out of a region.

It is much easier for researchers to gain access to establishment-level information using NETS than ES-202 filings. ES-202 filing data is highly restricted due to confidentiality requirements involved in its collection. Researchers wishing to access raw filing data are required to obtain permission through a long and complex application process. If they are allowed to use the raw data, they face further restrictions as to how their findings can be released. For example, the results must be presented at an aggregated level. In addition, follow-up surveys targeted to establishments identified in one's research are not possible. Thus, using ES-202 — even when available — can dramatically inhibit timely research and limit the potential value of research findings.

Another advantage of NETS is that DMI files are more information-rich than ES-202 filings. While ES-202 information is limited to few variables such as the number of full-time employees, wages, industry and business location, NETS reports dozens of demographic, operational, and performance variables for each establishment, largely *because* the data is collected by D&B for commercial purposes.

Critique 2: births and younger/smaller businesses are underreported

There have been large improvements in the methodology used to gather, screen and clean establishment-level data since Birch's dataset was developed in the 1980s (Neumark, Zhang, and Wall, 2005). For example, in 1991 the regional Bell telephone companies were allowed for the first time to sell the information they collect. This enabled D&B to greatly increase the number of establishments they reported, simply by using the Yellow Pages to identify new business units. However, there remains some lag in the detection of some establishments in the first year of operation.

To test this lag, researchers used regional industry directories and websites to compare the establishment start-year with NETS data (Kolko and Neumark, 2007). They found that 75 percent of the NETS files had the same start date as company sources, while 88 percent were within one year of start, and 92 percent were within two years. Overall, the correlation between start dates as reported by the companies and NETS was 0.87[2]. A check of Walmart stores found a 88.7 percent match, with discrepancies being primarily attributed to delays in NETS tracking new stores.

Although there may be a lag in NETS in detecting newly born businesses, ES-202 data has undergone similar criticism. An extensive study was undertaken to compare ES-202

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[2] A business that only consists of the founder will usually be tracked within one year from its start date by NETS. In contrast, ES-202 data would not begin tracking the business until it hired one full-time worker and began submitting unemployment compensation filings. From that time onward only full-time workers, and not the founder, would be tracked in ES-202 data.

coverage of new businesses in four states through telephone interviews with about 1,500 entrepreneurs (Buss, 1995). The author reports substantial shortcomings of ES-202 to track many new businesses in these study areas, and suggests, "Because ES-202 lists are so biased, researchers should not use them to build or test theories of entrepreneurship."

Other scholars also dispute the claim that federal statistics are better at reporting very small and startup businesses (Acs, Parsons and Tracy, 2008). They say that all datasets have problems detecting part-time sole proprietorships, such as part-time waitresses and consultants. DMI, they say, reports approximately 5 million of these while BLS does not report any. When DMI files were compared with BLS's Employment and Earnings Series in July of 2007, BLS reported 138.1 million workers compared with DMI's 142.9 million — a difference of 5 million that may be accounted for by these part-time proprietors that are tracked by DMI but missed by BLS.

Similarly, Acs et al (2008) show that BLS ignores a total of 18 million proprietorships when counting full-time solo employee businesses, while DMI ignores 13 million. They argue that both DMI files and the Labor Department have weak coverage of firm births because it can take up to three or more years for some of these firms to be discovered, identified and recorded as valid new businesses.

Other scholars have found similar results. Neumark et al (2005) found that NETS reports 184 percent more employment in establishments in the 1-4 employee size range than Size of Business (SOB) data, and 29 percent more in the 5-9 employee size range. They also report NETS had total employment of 17-22 percent higher than the QCEW for various size ranges.

Acs, Parsons and Tracy (2008) made a comparison of NETS with the Business Information Tracking System (BITS) database that is jointly prepared by the Census Bureau and SBA. BITS is designed to track all private sector firms over the 1990 to 2006 period. They began by ranking U.S. metropolitan statistical areas (MSAs) based on three categories of employment size, including startups, using results from the BITS and DMI. They report that, although the methodologies used by the datasets differ, the MSA rankings are essentially unchanged.

The evidence suggests that NETS reports far more small businesses than do government statistics, although there is some lag in the tracking of newly born businesses. Once these businesses are detected, however, they are then tracked onwards. As Acs, Parsons and Tracy (2008) demonstrate, these differences between federal statistics and NETS do not necessarily have an appreciable impact on findings, depending on the research question and study design.

Critique 3: differences in total employment

NETS reports higher total employment at the national and regional levels primarily because it covers more businesses than ES-202 based data. This is especially true for small businesses as discussed above. There are, however, other categories of workers that are entirely missed by ES-202 filings.

ES-202 reports are collected by each state's Department of Employment Security. They are estimated to cover approximately 96 percent of all private-sector full-time jobs, although

coverage varies by state and time (Abowd, et al., 2006). The primary exceptions to ES-202 reports are the agricultural sector and portions of the public sector such as federal, military and postal workers. In addition, ES-202 data omits domestic workers and unpaid family members. ES-202 data is also limited to business establishments with at least one full-time employee, aside from the owner. Employment of the proprietor is not included. ES-202 filings are also unlikely to report all undocumented workers because some firms may wish to avoid detection of illegal hiring practices.

To assess the magnitude of difference in total employment reported by DMI files and government statistics, Neumark et al (2005) compared the employment levels of NETS for the state of California with the QCEW, CES survey and SOB data. They found a correlation of 0.994 in the total level of employment between NETS and QCEW, a 0.948 correlation between NETS and CES, and a 0.817 correlation between NETS and SOB[3].

More recently, researchers at Massachusetts' Pioneer Institute of Public Policy Research reported, "We compared the NETS jobs data to the ES-202 data and the census data on non employers and found NETS data to track within 1-2 percent of the actual data" (Friar & Gay, 2010). A study at the Public Policy Institute of California evaluated the impact of productivity and cost-of-business indicators on employment growth in all U.S. states (Kolko, Neumark, & Mejia, 2011). They used both NETS and the QCEW employment data to calculate state-level job changes over the 1992-2008 period. Their results using NETS and QCEW data were essentially the same, showing the same direction with similar magnitude and significance.

Several researchers have noted that some employment figures in NETS appear to be rounded. For example, there is a concentration of employment numbers that are divisible by 5, 10, 100, and so on (Neumark, Zhang, & Wall, 2005). These researchers comment that while numbers appear to be rounded to the nearest salient number, they are unlikely to be biased appreciable on an aggregate level because the variation will be randomly higher or lower than the actual figure.

Kolko and Neumark (2007) also compared employment levels of NETS and the CES survey. They found that NETS data is often rounded, which underreports the frequency of employment level change from expansions and contractions. The year-to-year correlation in employment change between NETS and CES is 0.528. If, however, looked at over a three-year interval, the correlation rises to 0.864. They note that rounding implies that smaller year-to-year changes can be missed in NETS, but larger changes will be picked up in the data.

These studies strongly suggest that NETS reports higher total employment than government statistics partly because it reports far more small businesses (primarily sole proprietors), but also because it measures jobs not workers. This means that it reports part-time as well as full-time jobs, jobs held by undocumented workers, and counts all jobs of workers that hold

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[3] The divergence in total employment reported by NETS and ES-202 data varies by the period under analysis. As shown in Figure 3 below, the difference in total employment in Pennsylvania for 2002 is nearly 1 million workers, whereas total employment reported by both sources for 2006 is almost identical.

employment at more than one firm. Although there is some rounding in the NETS jobs figures, these are unlikely to affect total employment numbers in aggregate or over time.

Concerns with ES-202 unemployment insurance data

Researchers should be mindful of the limitations of state and federal sourced data if they are to make a thoughtful comparison with NETS. While there is strong evidence of errors, misclassification and inadequate coverage in ES-202-based federal data, there is surprisingly little consideration of these shortcomings by scholars who rely upon these sources in their research.

ES-202 data forms the base of a wide assortment of U.S. government employment and wage statistics. BLS uses Unemployment Insurance ES-202 data to compile its QCEW, CES survey and County Business Patterns[4]. The SOB dataset also is based largely on ES-202 reports. In addition, the Census of Manufacturers (CM), the Longitudinal Research Database (LRD), the Longitudinal Business Database (LBD), and the Longitudinal Employer Household Dynamics (LEHD) data are based on Census Bureau and ES-202 data (Kolko & Neumark, 2007).

The Covered Employment and Wages Program is the formal name of the ES-202 collection process, which operates under a cooperative agreement between the BLS and state employment securities agencies. States collect and process the ES-202 data based on the condition of confidentiality with BLS. As a consequence, government statistics are released in highly aggregated form based on a limited number of categories such as geographic region, industry (at four-digit SIC level) and employer size. As mentioned earlier, it is technically possible for researchers to access the raw data, although the complex and time-consuming approval process substantially limits access. Furthermore, scholars are restricted in the level of disaggregation they can report in their work. Because of these severe restrictions, researchers are generally limited to a small number of variables (location, industry and firm size) contained within aggregated data to test economic theories[5].

Inconsistent and inaccurate information

While there are differences in the employment figures obtained from BLS and DMI datasets, there are also frequent and substantial discrepancies across federally-generated statistics. For example, the two main sources of overall employment statistics in the U.S. economy — the Current Population Survey (CPS) and the CES payroll survey — routinely demonstrate "large and persistent" differences and often report different trends (Neumark, Zhang, & Wall, 2005).

According to Lars Vilhuber at Cornell University, there is a "widespread perception that administrative data are objective and comprehensive" (Vilhuber, 2005). Yet an audit by the

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[4] For more information on ES-202 collection and use in these and other datasets, see
http://www.ctre.iastate.edu/Research/bts_wb/cd-rom/employment/es202.htm
[5] The limitations of federal data and the historical lack of viable alternatives may partly explain the preponderance of U.S.-generated research studies and economic theory which is overwhelmingly based on a limited set of common variables (re: location, industry and firm size).

BLS in the late 1980s found an average error rate of 7.8 percent with a high variation across states. In 1997 the BLS admitted that the true error rate is likely to be even higher.

Errors have also been found in the handling of the data by state workers due to random coding errors. Vihuber (2005) writes that these errors seem to be persistent and uncorrected because, "none of the involved parties has a strong incentive to actively search for and obtain more accurate records on an ongoing basis."

These internal audits of 53 state employment security agencies by the BLS found that most errors in the ES-202 derived employment and wage data were caused by employers who either provided inaccurate, false or missing information (Abowd, et al., 2006). For example, a substantial number of ES-202 filings have incorrect location or industry information, or they are filed with the wrong employer identification number.

There may be more purposeful reasons why some firms submit false ES-202 reports. Systemic tax evasion by corporations is well documented. Corporations are obliged by law to report their number of employees and wages in quarterly ES-202 unemployment compensation filings and are subject to statutory payroll taxes. It is reasonable to expect that at least some businesses file ES-202 with incorrect information for tax evasion purposes, thus casting some doubt upon the accuracy of the employment statistics derived from this data. To compound problems, it is also possible that some employers are in noncompliance by failing to declare employment of undocumented workers.

A study by the IRS in 2001 estimated that the rate of corporate income tax noncompliance was 17 percent (Slemrod, 2007). This problem appears worse for small and private firms, which form the majority of private-sector businesses. For example, the IRS estimates noncompliance for corporations with less than $10 million in assets at approximately 29 percent. An independent study found that corporate tax filing deficiencies at public companies were 12.5 percent, whereas the rate at private companies was 17.1 percent.

The problems with ES-202 extend beyond errors and intentionally filed false information. Problems also occur in classifying employment when the employer firm experiences an ownership change, assigning workers to specific locations operated by multi-unit employers, and tracking differences in operational activity at individual locations of multi-unit firms.

Each company that files an ES-202 report is assigned a unique employer identification number. If a firm changes ownership, the employer identifier associated with jobs at that establishment changes, which often is reflected in the records as a mass layoff and closure at one business and a sudden hiring at a new or existing business — even if all of the workers are retained through the ownership transfer. As researchers that have studied this problem point out, "spurious apparent employer changes are known to induce biases in both employment and job flow statistics" (Abowd, et al., 2006).

ES-202 data performs poorly in assigning geographic location to employment for multi-unit businesses. Approximately 30-40 percent of workers at the state level work at companies with more than one establishment (Abowd, et al., 2006). These workers are reported under the same employer identification number regardless of location, obscuring the employment location data.

A similar problem occurs for companies that divide corporate activities across locations. For example, many multi-unit companies have separate facilities for headquarters activities, manufacturing and warehousing. All workers, regardless of their location or occupation, would be assigned the same geographic and industry code as the parent company. This makes it almost impossible for researchers to spatially detect corporate activities at multi-unit firms.

The evidence suggests that ES-202 data is laced with its own errors and inconsistencies. Some of these are caused by accidental or intentional misinformation submitted on the unemployment insurance filings, while others are caused by administrative handling of the data. In addition, there are problems with the way ES-202 data collection and reporting treats employment at companies who undergo ownership changes, as well as the assignment of employment and business activity by location to units of multi-unit firms.

Data smoothing

The BLS creates the CES based on an annual sample of 390,000 establishments, chosen from more than 8 million business establishments nationwide. BLS then uses statistical modeling to cross-check and modify other data that was collected and submitted by states as part of their ES-202 unemployment compensation reporting requirements.

In fact, CES' state-submitted employment data has been modified many times before it is published. Unemployment compensation figures are rounded and smoothed to eliminate "peaks and valleys" by averaging the data over multiple years. It is adjusted and revised to eliminate seasonal variations and business cycles. And it is synchronized with other federally-generated statistics such as Census Bureau data. Statistical modeling and estimation is also needed because only about 57 percent of manufacturers, for example, respond to the CES survey (Copeland). This creates substantial sampling bias in the original survey data.

Every state agency modifies their unemployment compensation data in unique ways before giving it to BLS. Indeed, there is such a large statistical variation in the reporting of employment statistics by states that the BLS website cautions against aggregating data from the different states. They advise in bold type: **Due to these statistical limitations, BLS does not compile a "sum of states" employment series and cautions users that such a series is subject to a relatively large and volatile error structure.** [6]

Researchers at the Public Policy Institute of California conducted extensive comparisons of NETS with the Current Population Survey and Payroll Survey data (Kolko & Neumark, 2007). Like other researchers, they report that overall employment levels in NETS are higher than these government sources. They also noted that employment in NETS is far more volatile than in government statistics. For example, NETS reports a sharper expansion in employment prior to recession and steeper declines after the onset of recession. It is very possible that data smoothing by state agencies and BLS has greatly contributed to these differences.

To observe the effect of data smoothing, consider a comparison between NETS and CES data for all private sector employment in the Commonwealth of Pennsylvania for the years

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[6] http://www.bls.gov/ces/cesfaq.htm

1999 through 2006. This time period includes the relatively mild recession which began at the end of 2001 and lasted approximately eight months.

Figure 1 displays the CES time-series, showing relatively straight lines through the entire period including the pre-recession and post-recession years. The service sector seems to continuously grow while the manufacturing sector consistently declines. Construction and mining are essentially flat lines. Total state employment wavers very slightly through the eight-year period.

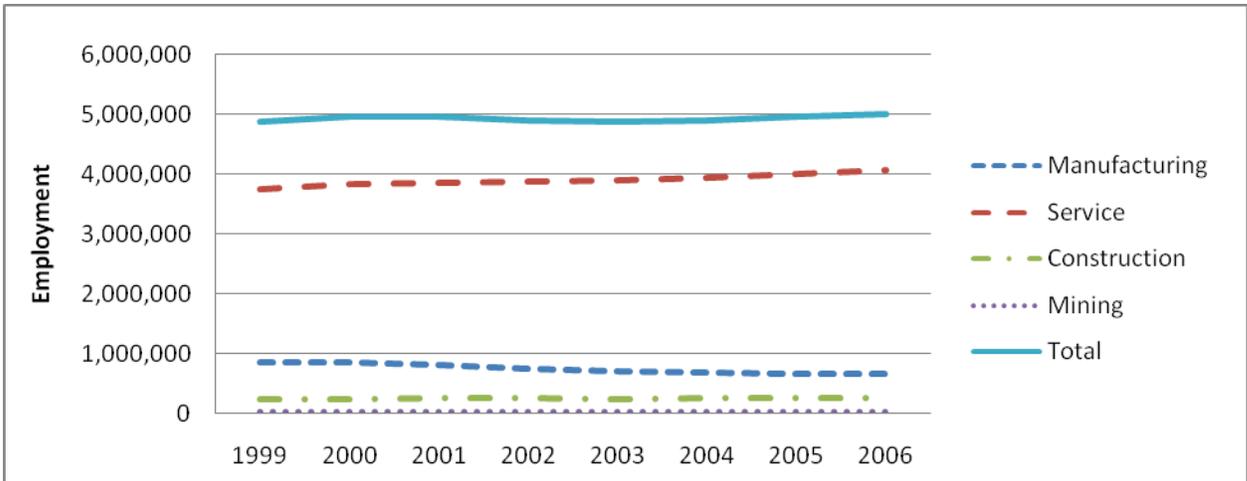Figure 1: CES Pennsylvania Employment Time-Series by Sector, 1999-2006

Figure 2 presents NETS time-series employment for the same period. The years preceding the recession are clearly demonstrated by upwardly sloping employment levels in total employment and in the services sector, peaking in 2002 and declining afterwards.

Figure 2: NETS Pennsylvania Employment Time-Series by Sector, 1999-2006
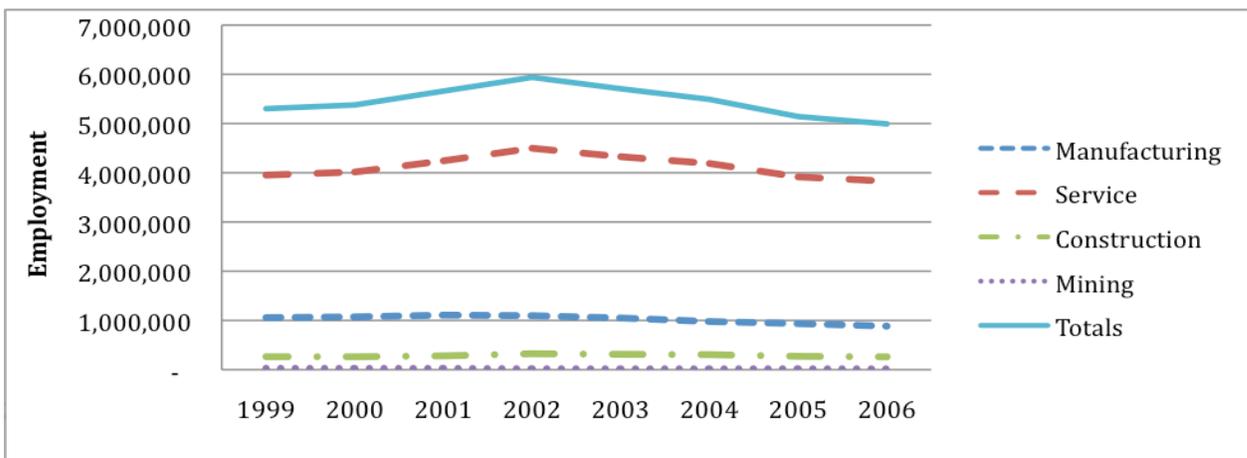
The differences between NETS and CES time-series employment data are more clearly visible in an overlay, as shown in Figure 3. NETS reports slightly higher employment in

years prior to recession, culminating in the largest differences at the height of the economic expansion. After growth peaks and recession begins, the NETS and CES data begin to converge. In fact, by 2006, employment levels in the services sector have inverted between the two datasets, with CES showing higher services employment than NETS.

Figure 3: Overlay of NETS and CES Time-Series, 1999-2006
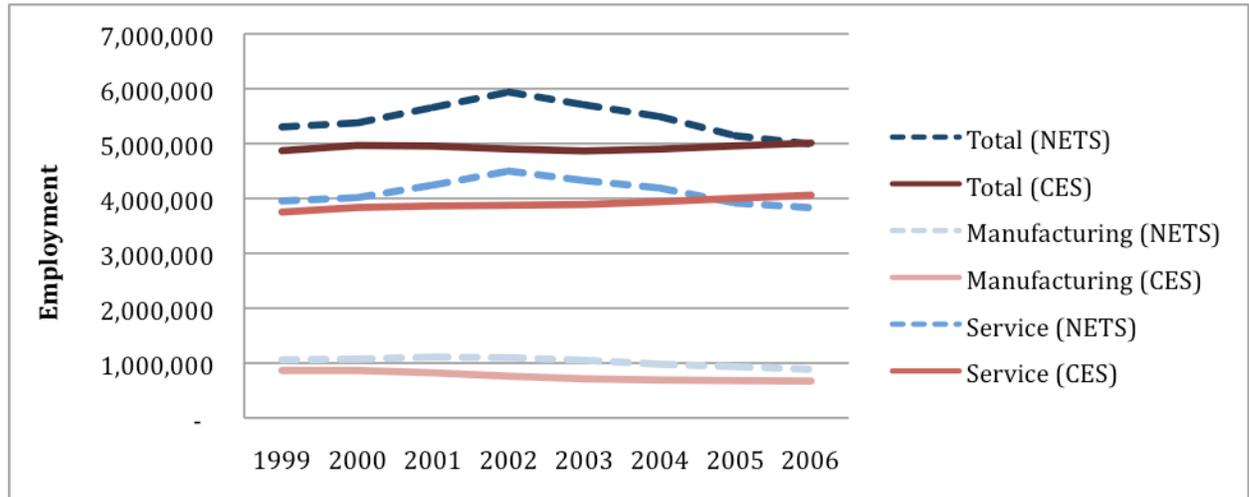
The evidence seems to indicate that overall employment in NETS versus CES data is dependent upon the period under study, and that some of the differences in overall employment levels may be caused by smoothing of ES-202 sourced data. In addition, it suggests that NETS is better than CES in detecting changes in employment that appear to correspond to macro-level business conditions. This casts doubts on the reliability of ES-202 data to present an accurate picture of U.S. employment levels, and increases the importance of access to alternative sources of employment data such as NETS.

Conclusion

Researchers that wish to study establishment-level and regional employment now have an alternative to ES-202 derived data. NETS provides a number of advantages over more traditional sources. One of the most important is transparency: *Every* establishment time-series record is available for review (and adjustment, if necessary). The organization of its database makes it easier for researchers to access raw data files that are far more information-rich than ES-202 data, offering dozens of potential variables for study. NETS tracks employment for almost every business operating in the United States, including privately-owned and small businesses, covering establishments in the agricultural sector as well as public and nonprofit organizations. It allows researchers to identify and track unit-level employment and relocations for multi-unit organizations, as well as each unit's primary, secondary and tertiary industries. Unlike federal data, NETS enables researchers to disaggregate employment changes in the economy into its components, including establishment births, expansions, relocations, contractions and deaths.

Both NETS and ES-202 data display some lag in identifying new establishments, however, NETS tracks millions more young and small firms than ES-202. NETS also detects employment not covered by ES-202, including part-time jobs and sole proprietorships, and it may pick up employment of undocumented workers. While NETS establishment-level employment numbers can be "sticky" from one year to the next due to rounding issues, relatively large annual changes in employment are likely to be noticed in the data.

ES-202 data has been found to contain a relatively high number of errors which can be attributed to faulty data reported by employers as well as data mishandling by government administrators. There are problems with tracking units of multi-unit establishments in ES-202 data, and in handling employment transfers when firm ownership changes. Finally, statistics derived from ES-202 data are smoothed, making it much harder for researchers to detect employment changes over the business cycle.

Of course, the degree to which any of these issues affect the validity of results from research studies using either ES-202 or NETS data is largely dependent upon the study's research questions, design and methods. Most researchers understand the importance of recognizing the limitations of their data and analysis techniques. As Neumark et al (2005) commented, there is no obvious "gold standard" for firm-level data because each dataset has its own strengths and weaknesses. Yet any researcher looking for employment and establishment data should seriously consider the merits of NETS over traditional sources.

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