

# Small Business GDP 1998-2014

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This paper measures the contributions of small businesses to the American economy. Small business GDP (SGDP) is a novel series that tracks private non-farm GDP for small businesses. SGDP contributed \$5.9 trillion to the \$13.6 trillion private economy in 2014. The small business share of GDP fell from 49.2% in 1998 to 43.5% in 2014 due to 4.8% annual growth for large businesses versus only 3.3% for small businesses. Productivity in terms of real GDP per employee was \$103,000 for small businesses versus \$122,000 for large businesses in 2014. In contrast, productivity per payroll dollar was \$2.44 for small businesses versus \$2.20 for large businesses. In addition to providing updated estimates and analysis for the US, the paper combines the SGDP series with additional government data sources to provide 16 industrial profiles summarizing the industry-level experiences of small businesses during the 1998-2014 period.

The data for this report was developed under a contract with the Small Business Administration Office of Advocacy (SBAHQ-15-M-0146), and contains information and analysis that were reviewed by officials of the Office of Advocacy. Statements and conclusions expressed herein are those of the authors and do not necessarily reflect the views of the Office of Advocacy or the U.S. Small Business Administration.

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## 1 INTRODUCTION

This paper measures the economic impact of US small businesses.<sup>1</sup>

The small business GDP series (SGDP) is comprised of revised 1998–2007 estimates, new 2008–2012 estimates, and preliminary estimates for 2013 and 2014. [Section 2](#) analyzes the SGDP series from multiple perspectives. [Section 3](#) combines the SGDP series with additional government data sources to summarize the experiences of small businesses in each industry. [Section 4](#) details the methodology for measuring small business GDP. [Section 5](#) discusses related literature. [Section 6](#) concludes. The [Appendix](#) provides additional statistics and figures displaying the level, growth, and shares of GDP, businesses, and employees for small businesses, large businesses, and the economy as a whole for each industry over the 1998–2014 period.

## 2 FINDINGS

[Section 2.1](#) briefly describes the SGDP series for the overall US. [Section 2.2](#) considers small business productivity, and [Section 2.3](#) analyses the share of GDP attributable to small businesses relative to large businesses over time.

### 2.1 SMALL BUSINESS GDP (SGDP)

Small businesses created \$5.9 trillion, or 43.5%, of the \$13.6 trillion private non-farm US economy in 2014. This followed 16 years of uneven nominal growth averaging 3.3% per year. Small business GDP (SGDP) stagnated briefly in 2001, declined \$213 billion during the great recession, and did not recover to pre-recession levels until 2011. The small business share of the economy fell from 49.2% in 1998 to 43.5% in 2014 due to faster nominal growth for large businesses of 4.8% versus 3.3% for small businesses.

Figure 1 displays SGDP over time with vertical bars highlighting recessions. SGDP stagnated briefly in 2001 and declined steeply between 2007 and 2009. SGDP did not recover to 2007 levels until 2011. SGDP was \$3.5 trillion in 1998 and grew 68%, or 3.3% annually, to \$5.9 trillion in 2014. The full series, including industry-level breakdowns, is provided in the [Appendix](#).

<sup>1</sup> Small businesses are defined as businesses employing fewer than 500 employees. The terms GDP, SGDP, and large business GDP refer to private non-farm nominal GDP and thus exclude owner-occupied housing, government, and agricultural unless otherwise noted. Including these sectors, total value added GDP was \$17.4 trillion in 2014. Please note that due to data limitations, SGDP estimates only refer to private non-farm industries. In contrast, all Census and BLS series describe the entirety of the corresponding NAICS (North American Industry Classification System) coded industries.

This study, conducted under Small Business Administration (SBA) contract number SBAHQ-15-M-0146, extends previous SBA Office of Advocacy sponsored research.

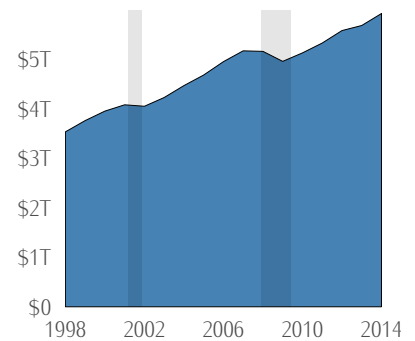


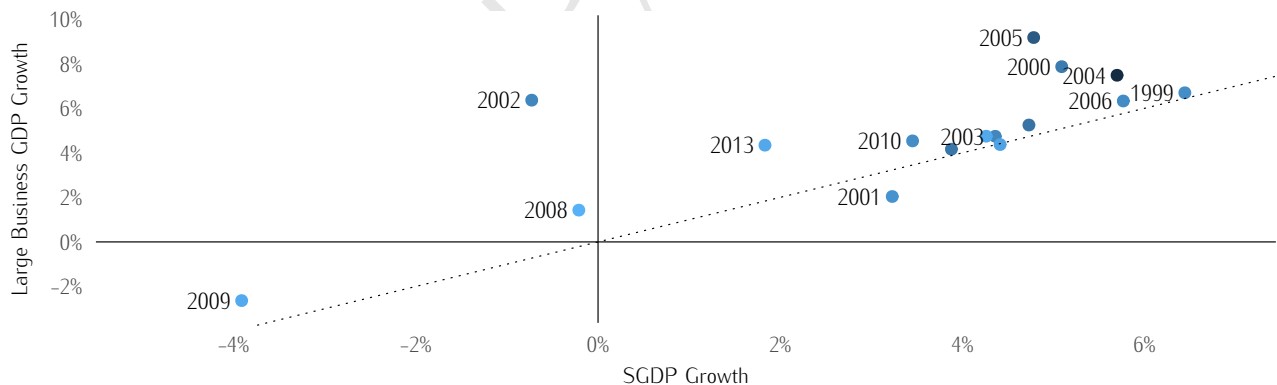
Figure 1: Small Business Nominal GDP 1998–2014

## 2.2 SMALL BUSINESS SHARE OF GDP

Figure 2 shows that the share of GDP attributable to small businesses' declined from 49.2% in 1998 to 43.5% in 2014.<sup>2</sup> The share fell sharply during the 2001 recession and declined steadily thereafter. SGDP experienced positive growth throughout the period. The declining small business share is therefore attributable to the markedly faster growth of large businesses.

Figure 3 compares SGDP growth rates to large business GDP growth rates for 1998–2014. Points on the dotted 45° line indicate equal rates, points above the line indicate years when large business GDP grew faster than SGDP, and points below the line indicate that SGDP grew more quickly than large business GDP. SGDP growth exceeded large business GDP growth only once across the period. This is reflected in Figure 3 by the solitary increase in small business GDP share observed in 2001.<sup>3</sup>

A solitary point in the third quadrant indicates that both SGDP and large business GDP declined in 2009. In 2002 and 2008, SGDP declined as well, albeit only slightly. Furthermore, when growth peaked in 2005, SGDP grew 4.8% while large business GDP grew 9.2%, almost double the SGDP rate. Several factors, discussed at length in [Section 3.2](#), help to explain the relatively faster growth of large businesses over the period.



<sup>2</sup> [Section 3](#) discusses a methodological change related to Limited Liability Companies (LLC) which contributed to the 1998–2000.

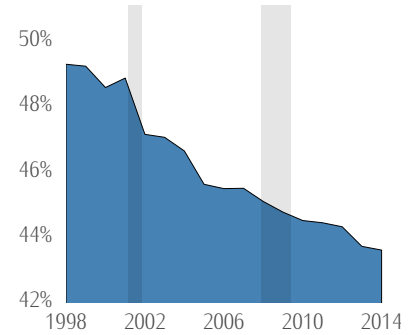


Figure 2: Small Business GDP Shares 1998–2014

<sup>3</sup> See detailed tables in Appendix.

## 2.3 SMALL BUSINESS PRODUCTIVITY<sup>4</sup>

According to the US Bureau of Economic Analysis' (BEA) GDP deflator, \$1 in 1998 translates to \$1.38 in 2014. Correcting for prices, real SGDP grew 22% over the period. This implies an annualized SGDP growth rate of 1.2% per year over the 16 year period.

<sup>4</sup> Real SGDP growth approximation:

$$\begin{aligned} \text{real growth} &= \frac{\left( \frac{\text{SGDP}_{\text{nominal}}^{2014}}{\text{SGDP}_{\text{nominal}}^{1998}} \right)}{\left( \frac{\text{GDP deflator}}{100} \right)} - 1 \\ &= \left( \frac{5.97}{3.57} \right) \left( \frac{1}{1.38} \right) - 1 \\ &\approx 22\% \end{aligned}$$

Annualized real SGDP growth:

$$\begin{aligned} \text{annual rate} &= \left( (1 + \text{growth})^{\frac{1}{\text{years}}} - 1 \right) \\ &= \left( 1.22^{\frac{1}{16}} - 1 \right) \\ &\approx 1.2\% \end{aligned}$$

It is necessary to acknowledge several caveats that prevent the precise measurement of inflation adjusted, SGDP across time. An obstacle is that price levels for grouped industries, such as Manufacturing and Mining, are unavailable. In addition, price levels for many North American Industrial Classification System (NAICS) defined industries are incomplete. Price levels for small and large business output within the same industry could diverge over time. By definition, inaccurate price estimates overstate growth in subsectors with relatively high inflation rates. Thus, it is unlikely that the difference between the price deflator for the overall economy and one that reflects only small businesses is negligible. Nevertheless, a real SGDP measure is approximated by applying the GDP deflator to the nominal SGDP series.

Economic growth results from secular increases in fundamental inputs or from increases in the output attained per unit of input. The latter source of growth is also called productivity. The ratio of real GDP, a measure of output, to an input, such as employment, therefore provides a rudimentary approximation for productivity.<sup>5</sup>

Figure 4 shows real GDP growth, employee productivity, and the productivity of payroll dollars.<sup>6</sup> Figure 4 (iii) shows that following the 2001 recession, the employee productivity series diverged. The difference in GDP per worker between small and large businesses ballooned from \$6,100 to \$19,200. Large businesses recovered more during and immediately after both the 2001 and 2008 recessions. This suggests that the recessions stimulated worker productivity for large businesses. Lazear et al. [2014] suggest that this phenomenon is due to existing workers' increased effort as opposed to changes in workforce composition.

Figure 4 (iii) shows that real GDP per payroll dollar was consistently greater for small businesses than for large businesses throughout the 1998–2014 period. While large businesses narrowed this productivity gap from 38¢ in 2001 to 6¢ in 2005, the difference grew following the 2008 recession, and has remained hovering at close to 20¢.

## 2.4 SMALL BUSINESS SHARE OF GDP BY INDUSTRY

Figure 5 provides a hierarchical map of SGDP and large business GDP by industry for 2014.

Since 1998, the small business share of GDP fell in all but two industries. The relatively small Utilities industry saw an increase in its small business GDP share possibly attributable to a decline in the number of large utility companies. Interestingly, small businesses in

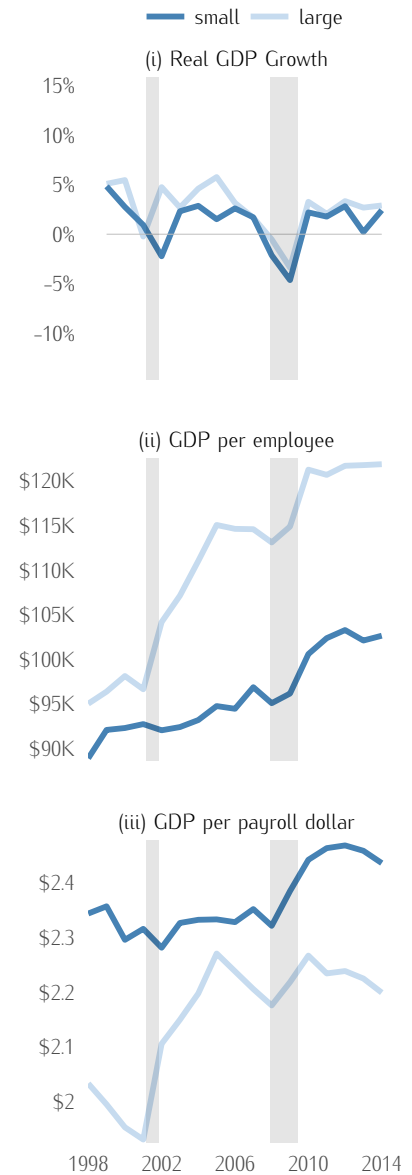


Figure 4: Real GDP, Real GDP per Employee, and Real GDP per Payroll Dollar

<sup>5</sup> Ceteris paribus.

<sup>6</sup> Non-employers are not included in the per employee productivity calculations.

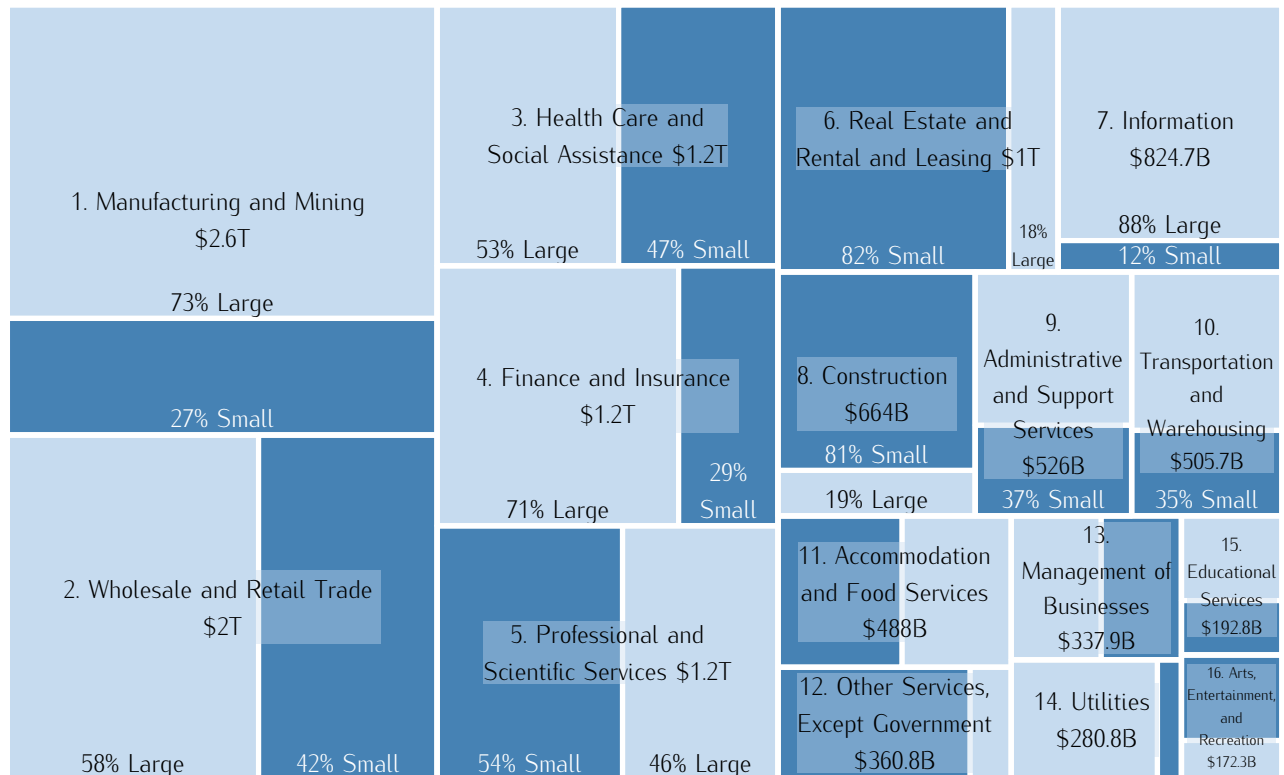


Figure 5: Industry Hierarchy, 2014

the Management of Businesses industry experienced an increase in their share of GDP. These small businesses also experienced a decline in the number of small businesses indicating higher productivity per small business.<sup>7</sup> Most of the marked increase in small business shares occurred during the financial crisis. Anecdotal evidence suggests that falling employment of previously large firms transferred a significant share of Management of Businesses' GDP into the ranks of small business.

Overall industry rankings by GDP remained stable since 1998. Only four industries increased their ranking by GDP.<sup>8</sup> Educational Services increased from the smallest to the second smallest industry, Management of Businesses increased from 14<sup>th</sup> to 13<sup>th</sup> largest, Administrative and Support Services increased from 12<sup>th</sup> to 9<sup>th</sup> largest, and Health Care and Social Assistance increased from being 5<sup>th</sup> to 3<sup>rd</sup> largest industry.

<sup>7</sup> See the [Employment Appendix](#).

<sup>8</sup> The Educational Services industry refers only to private sector educational institutions and not public schools.

### 3 SMALL BUSINESS INDUSTRIAL PROFILES

This section combines the SGDP series with additional government data sources to provide 16 industrial profiles. The profiles summarize the industry-level experiences of small businesses during the 1998–2014 period.<sup>9</sup> Adaptive text and figures translate the data into one-page summaries that highlight industry performance in terms of SGDP, openings and closings, employment, and productivity.<sup>10</sup>

Each profile begins with an introduction to the small business shares of GDP and employment. Next, firm-size breakdowns of GDP and multiple productivity measures are provided by area plots and line graphs in the right margin. A quarterly openings and closings plot then captures business dynamism with Hodrick-Prescott smoothed ( $\gamma = 1600$ ), openings and closings statistics.<sup>11</sup> Each profile then concludes with an adapted industry NAICS definition [Office of Management and Budget, 2017].

The quarterly openings and quarterly closings series provide insight into overall business dynamism in each industry. For example the openings and closings differential, or net openings, implies growth or contraction. For many industries the openings and closings differential is highly correlated with growth in the number of businesses, employment, GDP, and productivity. Figure 6 provides an aggregate view of openings and closings across all the industries. The figure highlights net openings for most years apart from a period of net closings during the financial crisis. Overall, the upward slopes of both series suggest a trend toward greater business dynamism.

A WORD OF CAUTION on interpreting isolated shocks within industry series. Changes to NAICS definitions occasionally create one-period disturbances to variables such as employment or the number of businesses. *Definition-rooted shocks* will appear as extreme, one-period changes in growth rates and should not be interpreted as actual changes in the economic landscape. See Transportation and Warehousing in 2002 and 2003 for a vivid example of the issue. When considering any significant one-period shocks, it is best to examine the underlying data provided in the [Appendix](#).

<sup>9</sup> The US Census Bureau's Statistics of US Businesses (SUSB) provides data regarding the numbers of businesses and employees by industry and firm-size. The 2006 Arts, Entertainment, and Recreation and 2003 Utilities small business employment statistics were redacted by SUSB. These gaps are filled with interpolated estimates.

<sup>10</sup> Nonemployer businesses are excluded from all business counts.

<sup>11</sup> The Bureau of Labor Statistics' Business Employment Dynamics (BED) program provides the openings and closings data. The [Appendix](#) describes the procedure used to aggregate and harmonize BED's 3-digit NAICS series into series that describe standard 2-digit NAICS classifications.

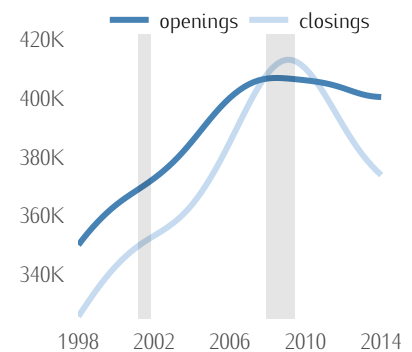
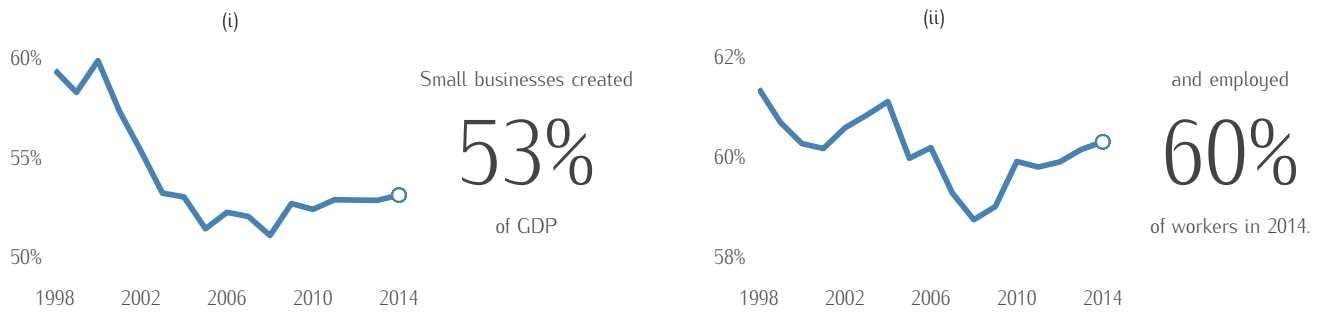


Figure 6: Net Quarterly Openings and Closings for the US 1998–2014 (BED)



### 3.1 ACCOMMODATION AND FOOD SERVICES SMALL BUSINESS PROFILE

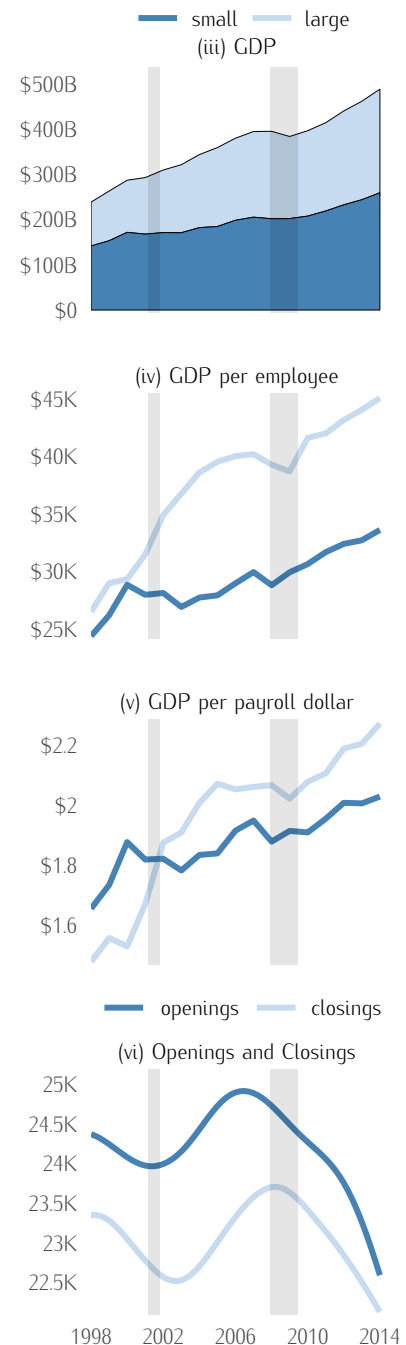


THE ACCOMMODATION AND FOOD SERVICES industry produced 3.6% of private non-farm GDP in 2014. The industry was the 11<sup>th</sup> largest overall and 9<sup>th</sup> among small businesses. It's small businesses created \$259.1 billion, or approximately 53.1%, of the \$488 billion industry total in 2014, as compared to 59.4% in 1998. See panels (i) and (iii) for greater detail.

The industry's 12.8 million employees comprised 10.6% of overall private non-farm employment in 2014. It was the 3<sup>rd</sup> largest employer among small businesses and 5<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 61.4% in 1998 to 60.3% in 2014.

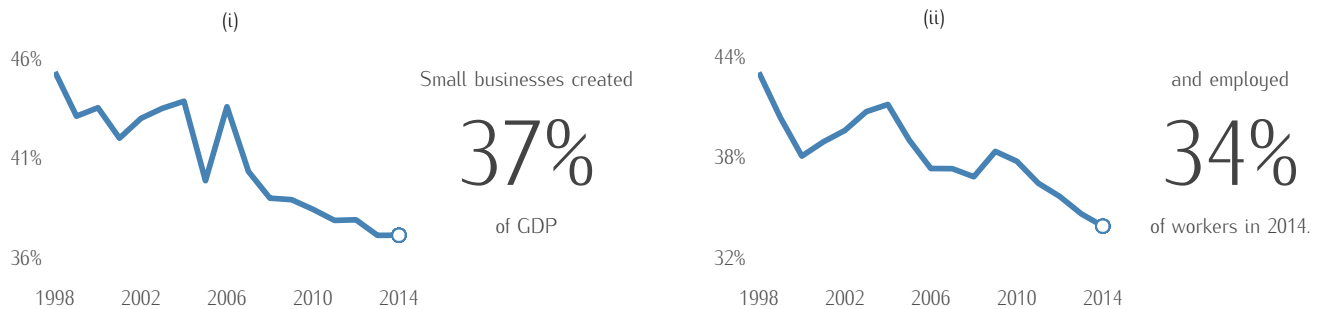
Overall Accommodation and Food Services productivity ranked 16<sup>th</sup> in terms of GDP per employee and 10<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Accommodation and Food Services produced \$33,598 per worker, 16<sup>th</sup> among small businesses, and they generated \$2.03 of SGDP for every \$1 dollar in payroll, 11<sup>th</sup> among small businesses. Accommodation and Food Services productivity was higher for large businesses than for small businesses both in terms of real GDP per employee and per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 14.0% from 1998 to 2006 and grew 6.7% during the 2007 to 2014 period. Overall, the number of small businesses grew 21.6% to 506,725. The industry averages 15.2 employees per small business as compared to 10 per small business across all industries.



THE ACCOMMODATION AND FOOD SERVICES sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption. The sector includes both accommodation and food services establishments because the two activities are often combined at the same establishment. Excluded from this sector are civic and social organizations; amusement and recreation parks; theaters; and other recreation or entertainment facilities providing food and beverage services

### 3.2 ADMINISTRATIVE AND SUPPORT SERVICES SMALL BUSINESS PROFILE

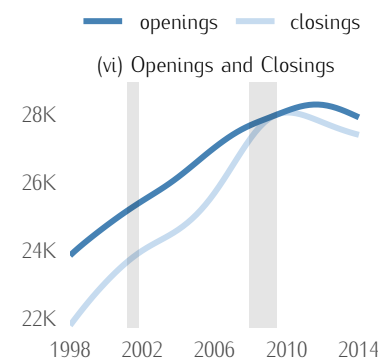
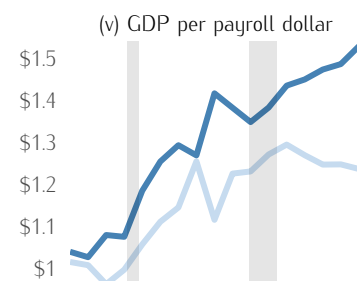
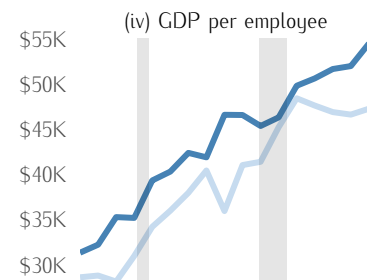
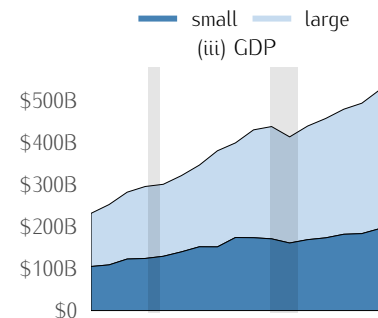


THE ADMINISTRATIVE AND SUPPORT SERVICES industry produced 3.9% of private non-farm GDP in 2014. The industry was the 9<sup>th</sup> largest overall and 10<sup>th</sup> among small businesses. It's small businesses created \$195.2 billion, or approximately 37.1%, of the \$526 billion industry total in 2014, as compared to 45.3% in 1998. See panels (i) and (iii) for greater detail.

The industry's 10.6 million employees comprised 8.7% of overall private non-farm employment in 2014. It was the 8<sup>th</sup> largest employer among small businesses and 9<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 43.1% in 1998 to 33.9% in 2014.

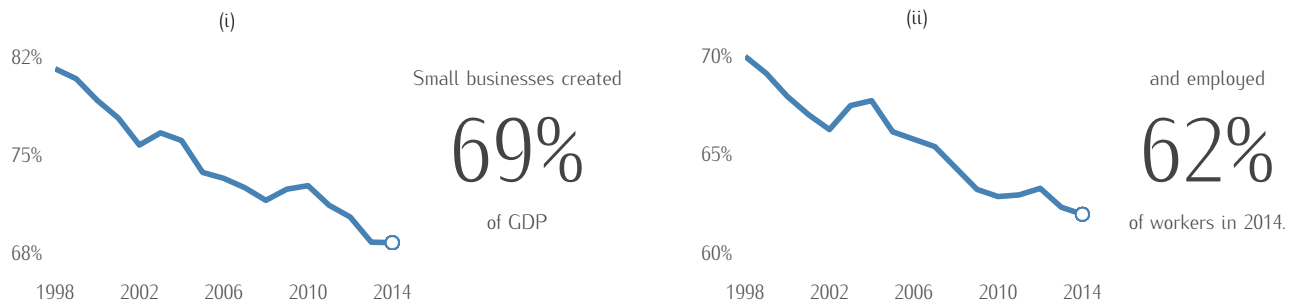
Overall Administrative and Support Services productivity ranked 15<sup>th</sup> in terms of GDP per employee and 15<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Administrative and Support Services produced \$54,496 per worker, 14<sup>th</sup> among small businesses, and they generated \$1.53 of SGDP for every \$1 dollar in payroll, 14<sup>th</sup> among small businesses. Administrative and Support Services productivity was higher for small businesses than for large businesses both in terms of real GDP per employee and real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 8.3% from 1998 to 2006 and grew 0.8% during the 2007 to 2014 period. Overall, the number of small businesses grew 9.2% to 327,706. The industry averages 10.9 employees per small business as compared to 10 per small business across all industries.



THE ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES sector comprises establishments performing routine support activities for the day-to-day operations of other organizations. These essential activities are often undertaken in-house by establishments in many sectors of the economy. The establishments in this sector specialize in one or more of these support activities and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services.

### 3.3 ARTS, ENTERTAINMENT, AND RECREATION SMALL BUSINESS PROFILE



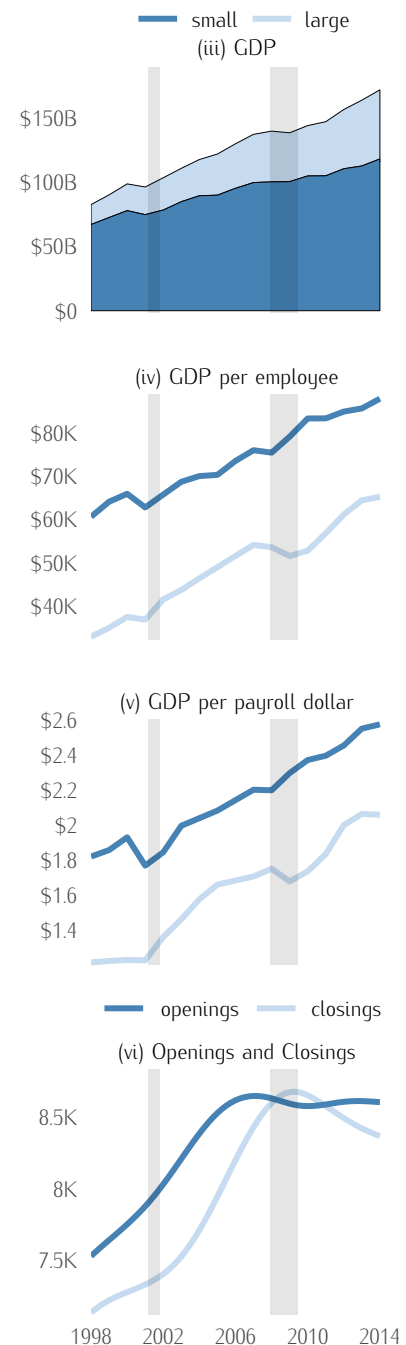
THE ARTS, ENTERTAINMENT, AND RECREATION industry produced 1.3% of private non-farm GDP in 2014. The industry was the 16<sup>th</sup> largest overall and 13<sup>th</sup> among small businesses. It's small businesses created \$118.4 billion, or approximately 68.7%, of the \$172.3 billion industry total in 2014, as compared to 81.2% in 1998. See panels (i) and (iii) for greater detail.

The industry's 2.2 million employees comprised 1.8% of overall private non-farm employment in 2014. It was the 13<sup>th</sup> largest employer among small businesses and 8<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 70.0% in 1998 to 61.9% in 2014.

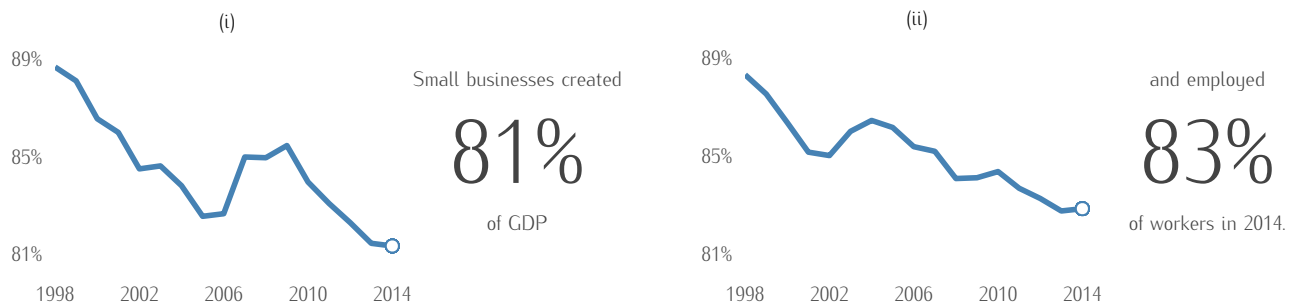
Overall Arts, Entertainment, and Recreation productivity ranked 11<sup>th</sup> in terms of GDP per employee and 7<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Arts, Entertainment, and Recreation produced \$88,097 per worker, 11<sup>th</sup> among small businesses, and they generated \$2.57 of SGDP for every \$1 dollar in payroll, 6<sup>th</sup> among small businesses. Arts, Entertainment, and Recreation productivity was higher for small businesses than for large businesses both in terms of real GDP per employee and real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 21.1% from 1998 to 2006 and grew 2.2% during the 2007 to 2014 period. Overall, the number of small businesses grew 23.8% to 118,566. The industry averages 11.3 employees per small business as compared to 10 per small business across all industries.

THE ARTS, ENTERTAINMENT, AND RECREATION sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons. Some establishments that provide cultural, entertainment, or recreational facilities and services are classified in other sectors. This sector comprises (1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests.



### 3.4 CONSTRUCTION SMALL BUSINESS PROFILE

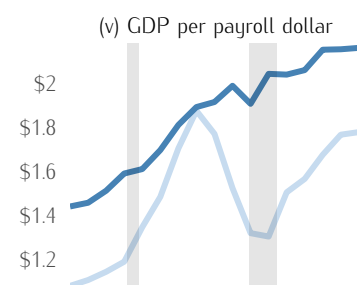
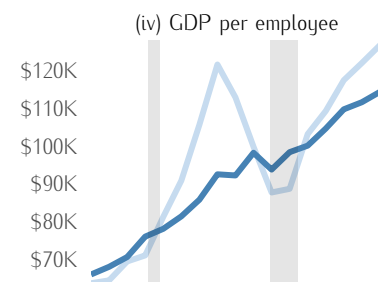
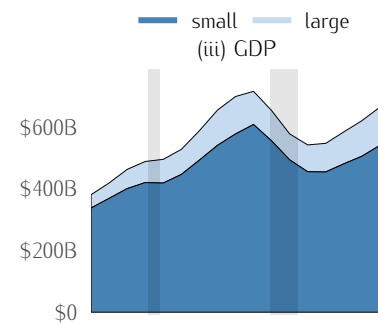


THE CONSTRUCTION industry produced 4.9% of private non-farm GDP in 2014. The industry was the 8<sup>th</sup> largest overall and 6<sup>th</sup> among small businesses. It's small businesses created \$540 billion, or approximately 81.3%, of the \$664 billion industry total in 2014, as compared to 88.7% in 1998. See panels (i) and (iii) for greater detail.

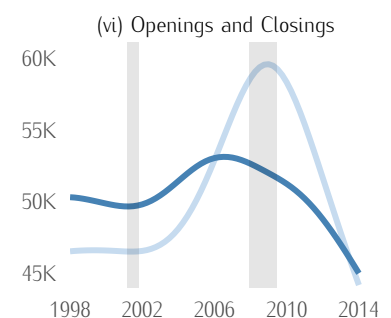
The industry's 5.7 million employees comprised 4.7% of overall private non-farm employment in 2014. It was the 6<sup>th</sup> largest employer among small businesses and 13<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 88.3% in 1998 to 82.8% in 2014.

Overall Construction productivity ranked 7<sup>th</sup> in terms of GDP per employee and 11<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Construction produced \$114,263 per worker, 7<sup>th</sup> among small businesses, and they generated \$2.16 of SGDP for every \$1 dollar in payroll, 10<sup>th</sup> among small businesses. Construction productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 16.5% from 1998 to 2006 and fell 18.2% during the 2007 to 2014 period. Overall, the number of small businesses fell 4.6% to 653,598. The industry averages 7.2 employees per small business as compared to 10 per small business across all industries.

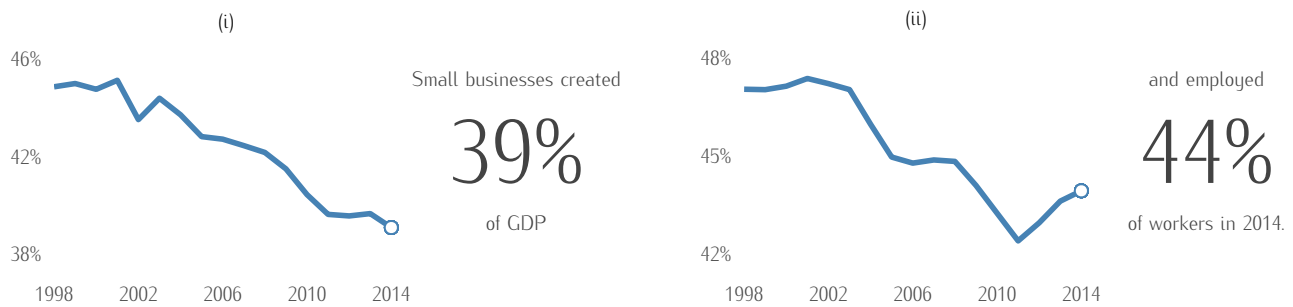


— openings — closings



THE CONSTRUCTION sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Establishments primarily engaged in the preparation of sites for new construction and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector. Construction work done may include new work, additions, alterations, or maintenance and repairs. Activities of these establishments generally are managed at a fixed place of business, but they usually perform construction activities at multiple project sites. Production responsibilities for establishments in this sector are usually specified in (1) contracts with the owners of construction projects (prime contracts) or (2) contracts with other construction establishments (subcontracts).

### 3.5 EDUCATIONAL SERVICES SMALL BUSINESS PROFILE



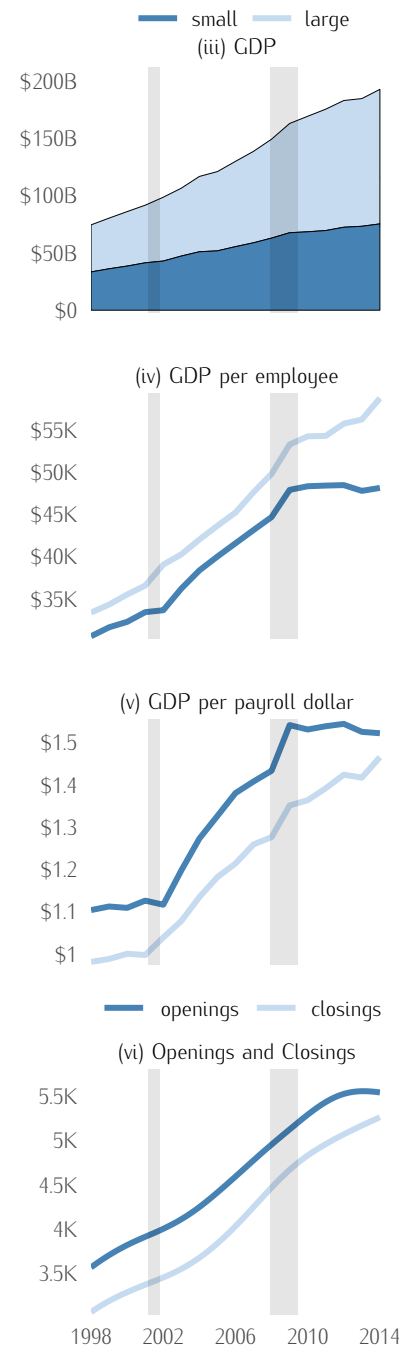
THE EDUCATIONAL SERVICES industry produced 1.4% of private non-farm GDP in 2014. The industry was the 15<sup>th</sup> largest overall and 15<sup>th</sup> among small businesses. It's small businesses created \$75.3 billion, or approximately 39.1%, of the \$192.8 billion industry total in 2014, as compared to 44.8% in 1998. See panels (i) and (iii) for greater detail.

The industry's 3.6 million employees comprised 2.9% of overall private non-farm employment in 2014. It was the 11<sup>th</sup> largest employer among small businesses and 4<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 47.0% in 1998 to 43.9% in 2014.

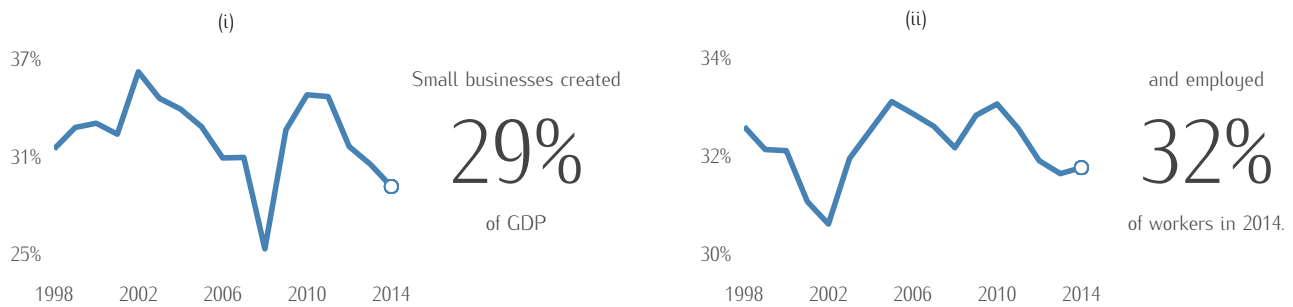
Overall Educational Services productivity ranked 14<sup>th</sup> in terms of GDP per employee and 13<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Educational Services produced \$48,149 per worker, 15<sup>th</sup> among small businesses, and they generated \$1.52 of SGDP for every \$1 dollar in payroll, 16<sup>th</sup> among small businesses. Educational Services productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 32.0% from 1998 to 2006 and grew 14.0% during the 2007 to 2014 period. Overall, the number of small businesses grew 50.4% to 86,549. The industry averages 18.1 employees per small business as compared to 10 per small business across all industries.

THE EDUCATIONAL SERVICES sector comprises establishments that provide instruction and training in a wide variety of subjects. This instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training centers. Educational services are usually delivered by teachers or instructors that explain, tell, demonstrate, supervise, and direct learning. Instruction is imparted in diverse settings, such as educational institutions, the workplace, or the home, and through diverse means, such as correspondence, television, the Internet, or other electronic and distance-learning methods. The training provided by these establishments may include the use of simulators and simulation methods. It can be adapted to the particular needs of the students, for example sign language can replace verbal language for teaching students with hearing impairments.



### 3.6 FINANCE AND INSURANCE SMALL BUSINESS PROFILE

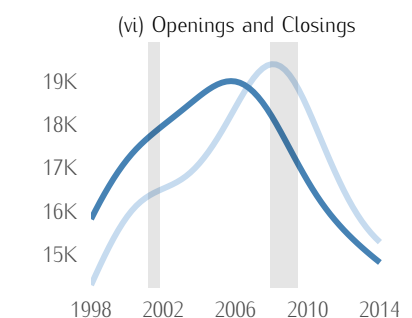
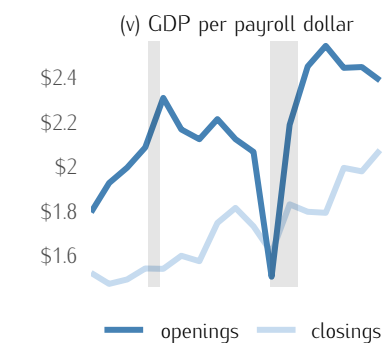
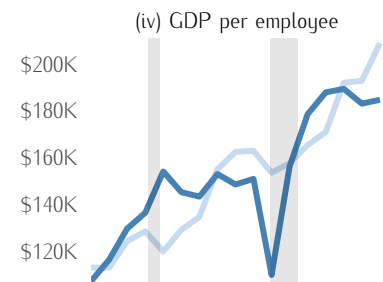
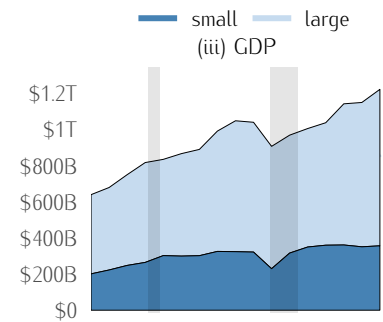


THE FINANCE AND INSURANCE industry produced 9.0% of private non-farm GDP in 2014. The industry was the 4<sup>th</sup> largest overall and 7<sup>th</sup> among small businesses. It's small businesses created \$356.4 billion, or approximately 29.1%, of the \$1.2 trillion industry total in 2014, as compared to 31.4% in 1998. See panels (i) and (iii) for greater detail.

The industry's 6.1 million employees comprised 5.0% of overall private non-farm employment in 2014. It was the 9<sup>th</sup> largest employer among small businesses and 12<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 32.6% in 1998 to 31.8% in 2014.

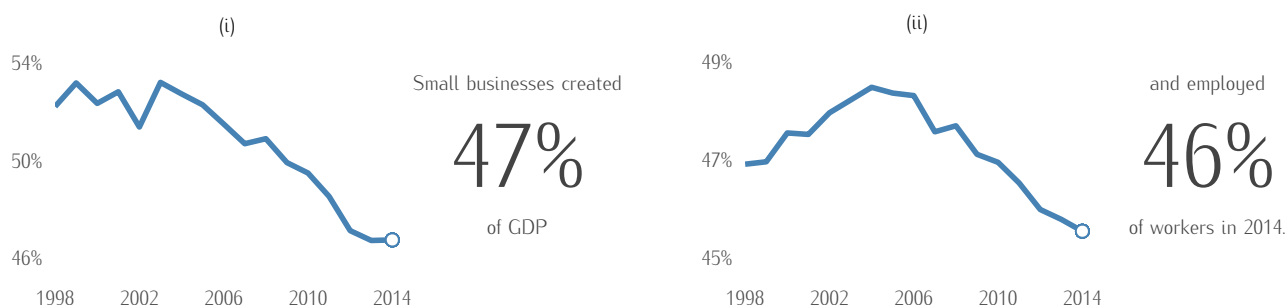
Overall Finance and Insurance productivity ranked 5<sup>th</sup> in terms of GDP per employee and 9<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Finance and Insurance produced \$184,637 per worker, 4<sup>th</sup> among small businesses, and they generated \$2.39 of SGDP for every \$1 dollar in payroll, 7<sup>th</sup> among small businesses. Finance and Insurance productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 19.1% from 1998 to 2006 and fell 10.7% during the 2007 to 2014 period. Overall, the number of small businesses grew 6.3% to 234,350. The industry averages 8.2 employees per small business as compared to 10 per small business across all industries.



THE FINANCE AND INSURANCE sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions. Three principal types of activities are identified: 1. Raising funds by taking deposits and/or issuing securities and, in the process, incurring liabilities. 2. Pooling of risk by underwriting insurance and annuities. 3. Providing specialized services facilitating or supporting financial intermediation, insurance, and employee benefit programs.

### 3.7 HEALTH CARE AND SOCIAL ASSISTANCE SMALL BUSINESS PROFILE

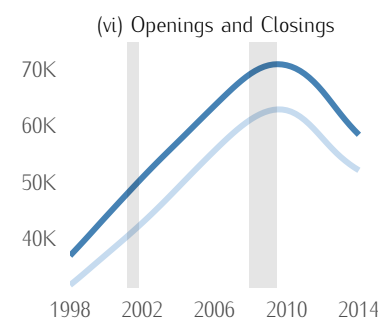
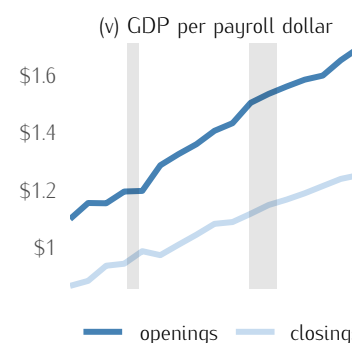
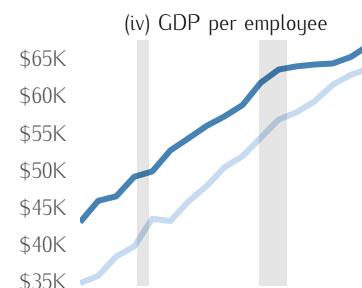
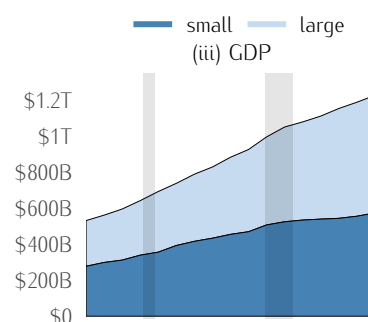


THE HEALTH CARE AND SOCIAL ASSISTANCE industry produced 9.0% of private non-farm GDP in 2014. The industry was the 3<sup>rd</sup> largest overall and 5<sup>th</sup> among small businesses. It's small businesses created \$573.4 billion, or approximately 46.7%, of the \$1.2 trillion industry total in 2014, as compared to 52.2% in 1998. See panels (i) and (iii) for greater detail.

The industry's 18.9 million employees comprised 15.6% of overall private non-farm employment in 2014. It was the 2<sup>nd</sup> largest employer among small businesses and 6<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 46.9% in 1998 to 45.5% in 2014.

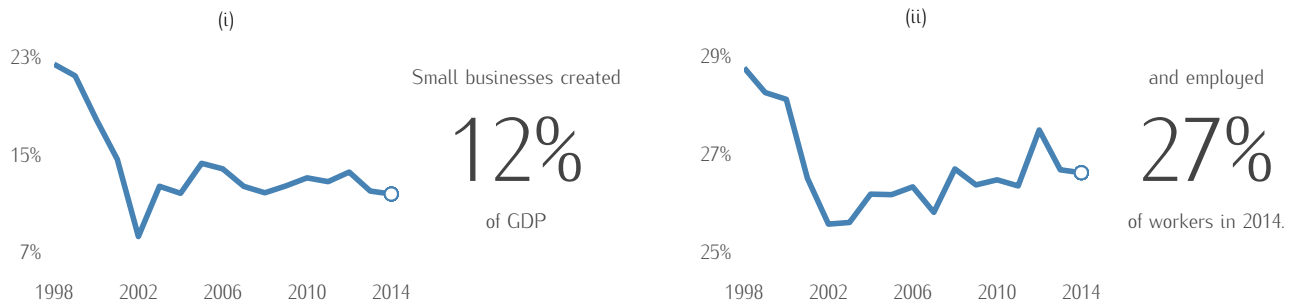
Overall Health Care and Social Assistance productivity ranked 13<sup>th</sup> in terms of GDP per employee and 14<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Health Care and Social Assistance produced \$66,790 per worker, 12<sup>th</sup> among small businesses, and they generated \$1.70 of SGDP for every \$1 dollar in payroll, 13<sup>th</sup> among small businesses. Health Care and Social Assistance productivity was higher for small businesses than for large businesses both in terms of real GDP per employee and real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 16.6% from 1998 to 2006 and grew 5.9% during the 2007 to 2014 period. Overall, the number of small businesses grew 23.4% to 646,954. The industry averages 13.3 employees per small business as compared to 10 per small business across all industries.



THE HEALTH CARE AND SOCIAL ASSISTANCE sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

### 3.8 INFORMATION SMALL BUSINESS PROFILE

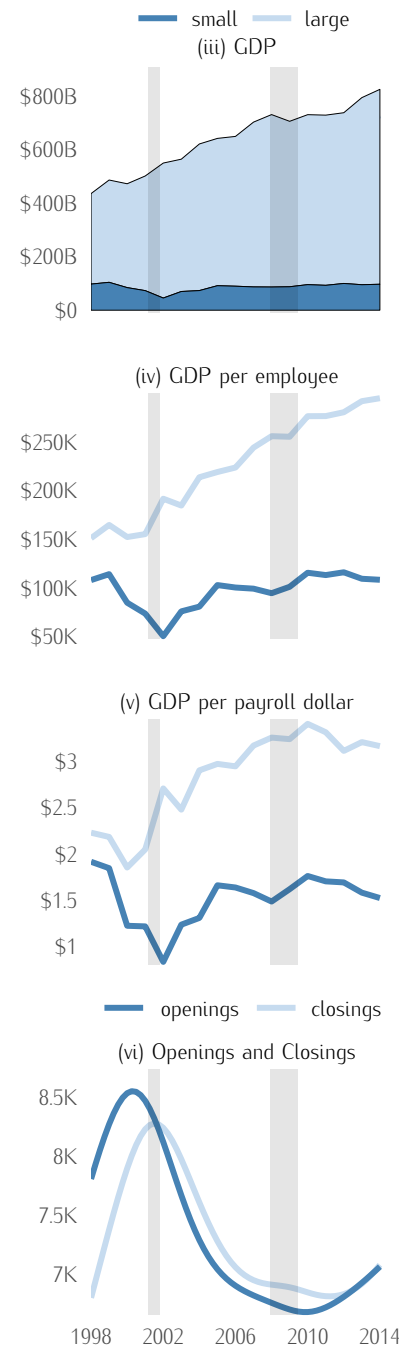


THE INFORMATION industry produced 6.1% of private non-farm GDP in 2014. The industry was the 7<sup>th</sup> largest overall and 14<sup>th</sup> among small businesses. It's small businesses created \$96.9 billion, or approximately 11.7%, of the \$824.7 billion industry total in 2014, as compared to 22.4% in 1998. See panels (i) and (iii) for greater detail.

The industry's 3.4 million employees comprised 2.8% of overall private non-farm employment in 2014. It was the 14<sup>th</sup> largest employer among small businesses and 7<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 28.7% in 1998 to 26.6% in 2014.

Overall Information productivity ranked 3<sup>rd</sup> in terms of GDP per employee and 4<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Information produced \$108,225 per worker, 9<sup>th</sup> among small businesses, and they generated \$1.52 of SGDP for every \$1 dollar in payroll, 15<sup>th</sup> among small businesses. Information productivity was higher for large businesses than for small businesses both in terms of real GDP per employee and per payroll dollar.

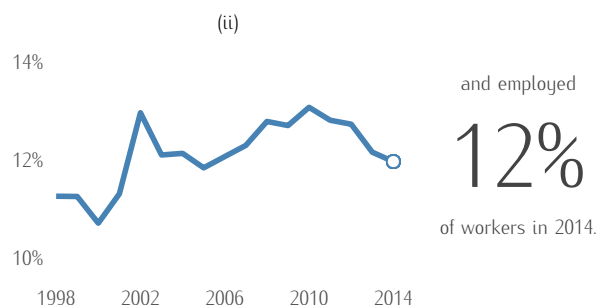
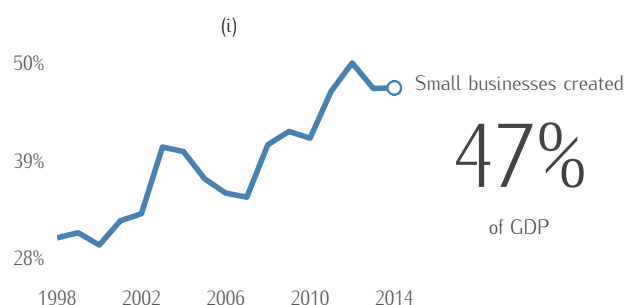
Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 0.4% from 1998 to 2006 and fell 3.4% during the 2007 to 2014 period. Overall, the number of small businesses fell 3.1% to 72,028. The industry averages 12.4 employees per small business as compared to 10 per small business across all industries.



THE INFORMATION sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data. The main components of this sector are the publishing industries, including software publishing, and both traditional publishing and publishing exclusively on the Internet; the motion picture and sound recording industries; the broadcasting industries, including traditional broadcasting and those broadcasting exclusively over the Internet; the telecommunications industries; Web search portals, data processing industries, and the information services industries.



### 3.9 MANAGEMENT OF BUSINESSES SMALL BUSINESS PROFILE

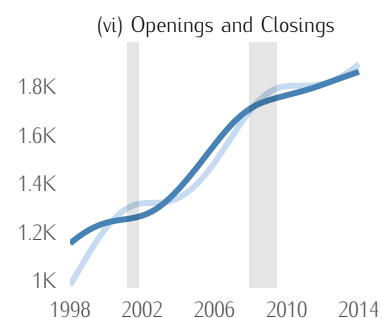
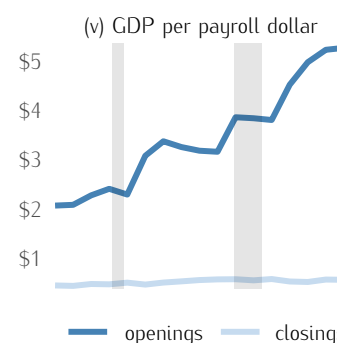
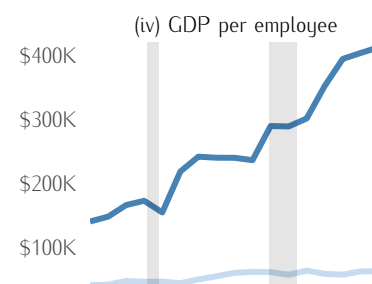
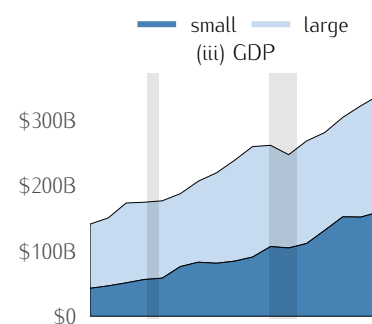


THE MANAGEMENT OF BUSINESSES industry produced 2.5% of private non-farm GDP in 2014. The industry was the 13<sup>th</sup> largest overall and 12<sup>th</sup> among small businesses. It's small businesses created \$159.3 billion, or approximately 47.2%, of the \$337.9 billion industry total in 2014, as compared to 30.3% in 1998. See panels (i) and (iii) for greater detail.

The industry's 3.2 million employees comprised 2.7% of overall private non-farm employment in 2014. It was the 15<sup>th</sup> largest employer among small businesses and largest overall. Panel (ii) shows the small business share of employment. Small business employment grew from 11.3% in 1998 to 12.0% in 2014.

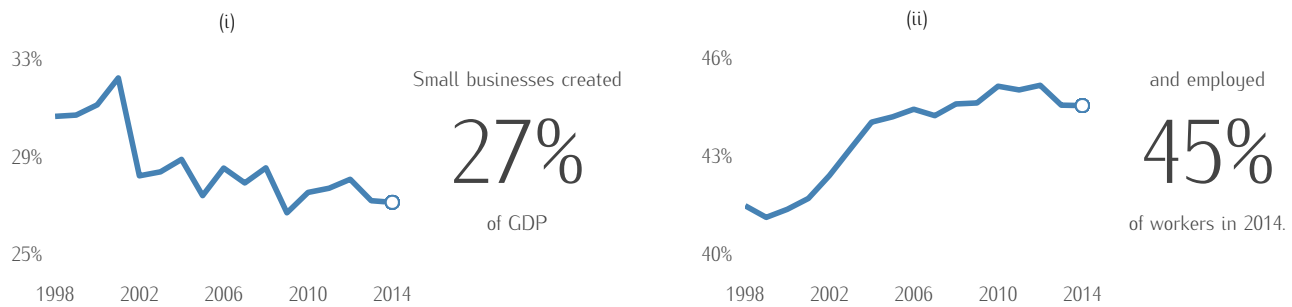
Overall Management of Businesses productivity ranked 9<sup>th</sup> in terms of GDP per employee and 16<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Management of Businesses produced \$411,733 per worker, 2<sup>nd</sup> among small businesses, and they generated \$5.27 of SGDP for every \$1 dollar in payroll, 2<sup>nd</sup> among small businesses. Management of Businesses productivity was higher for small businesses than for large businesses both in terms of real GDP per employee and real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 4.7% from 1998 to 2006 and fell 7.8% during the 2007 to 2014 period. Overall, the number of small businesses fell 3.4% to 19,179. The industry averages 20.2 employees per small business as compared to 10 per small business across all industries.



THE MANAGEMENT OF COMPANIES AND ENTERPRISES sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise. Establishments that administer, oversee, and manage may hold the securities of the company or enterprise.

### 3.10 MANUFACTURING AND MINING SMALL BUSINESS PROFILE

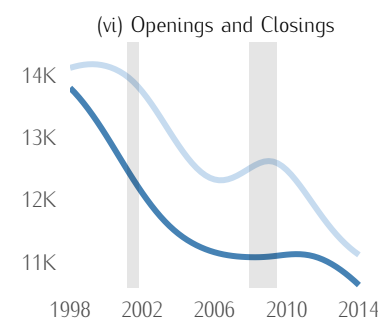
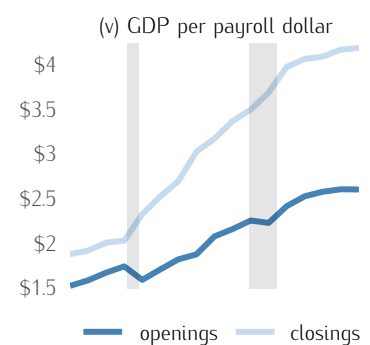
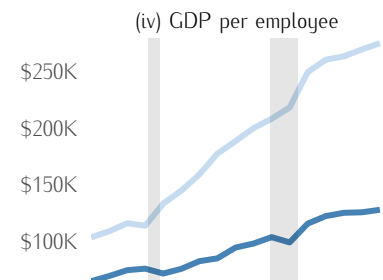
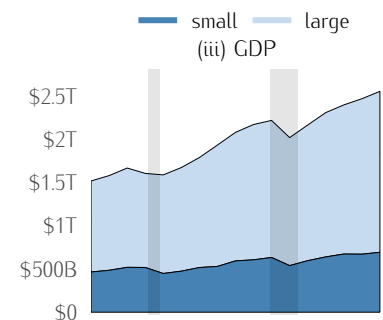


THE MANUFACTURING AND MINING industry produced 18.7% of private non-farm GDP in 2014. The industry was the largest overall and 3<sup>rd</sup> among small businesses. It's small businesses created \$691.9 billion, or approximately 27.1%, of the \$2.6 trillion industry total in 2014, as compared to 30.6% in 1998. See panels (i) and (iii) for greater detail.

The industry's 12.2 million employees comprised 10.1% of overall private non-farm employment in 2014. It was the 4<sup>th</sup> largest employer among small businesses and 2<sup>nd</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment grew from 41.5% in 1998 to 44.5% in 2014.

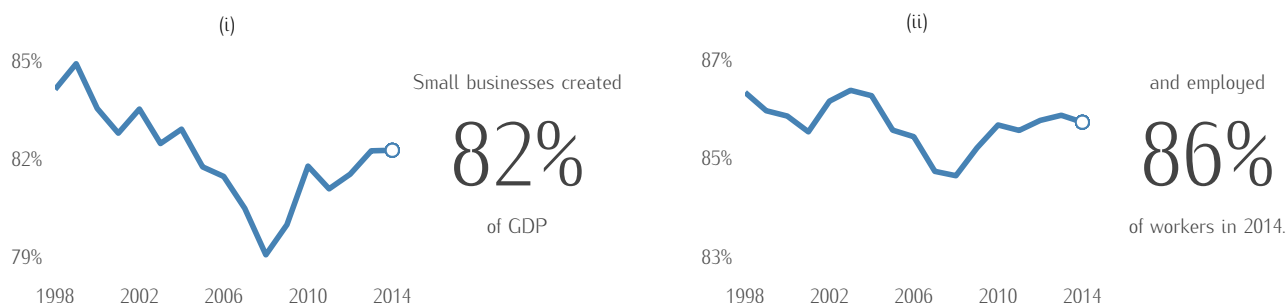
Overall Manufacturing and Mining productivity ranked 4<sup>th</sup> in terms of GDP per employee and 3<sup>rd</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Manufacturing and Mining produced \$127,538 per worker, 6<sup>th</sup> among small businesses, and they generated \$2.60 of SGDP for every \$1 dollar in payroll, 5<sup>th</sup> among small businesses. Manufacturing and Mining productivity was higher for large businesses than for small businesses both in terms of real GDP per employee and per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry fell 9.1% from 1998 to 2006 and fell 10.7% during the 2007 to 2014 period. Overall, the number of small businesses fell 18.8% to 270,528. The industry averages 20.1 employees per small business as compared to 10 per small business across all industries.



THE MANUFACTURING sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. The Mining sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity.

### 3.11 OTHER SERVICES, EXCEPT GOVERNMENT SMALL BUSINESS PROFILE

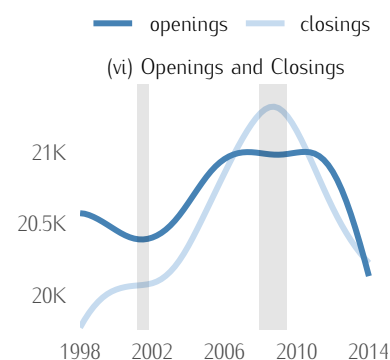
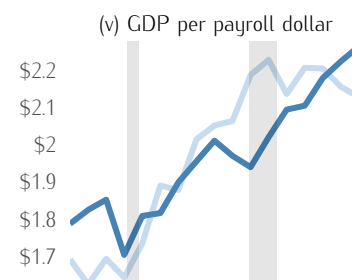
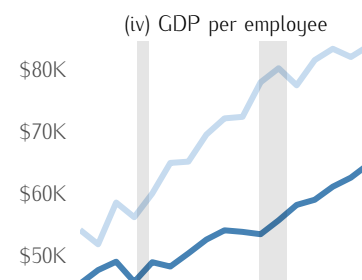
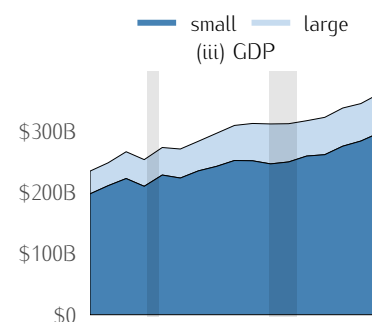


THE OTHER SERVICES, EXCEPT GOVERNMENT industry produced 2.6% of private non-farm GDP in 2014. The industry was the 12<sup>th</sup> largest overall and 8<sup>th</sup> among small businesses. It's small businesses created \$296.8 billion, or approximately 82.3% of the \$360.8 billion industry total in 2014, as compared to 84.1% in 1998. See panels (i) and (iii) for greater detail.

The industry's 5.3 million employees comprised 4.4% of overall private non-farm employment in 2014. It was the 7<sup>th</sup> largest employer among small businesses and 14<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 86.3% in 1998 to 85.7% in 2014.

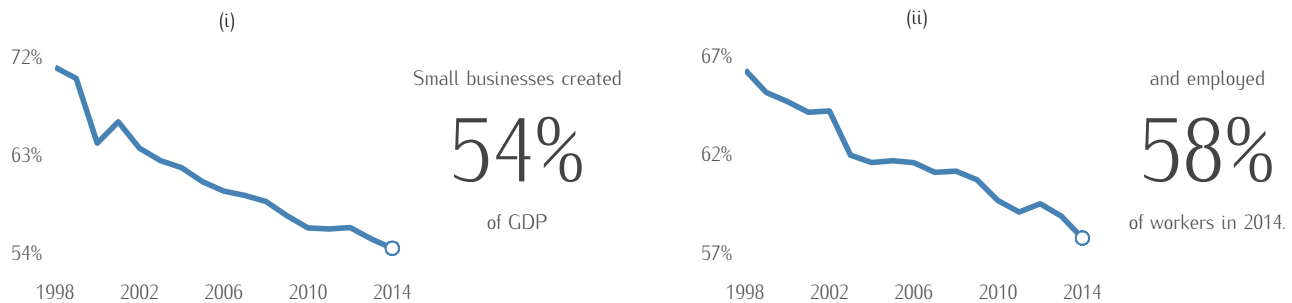
Overall Other Services, Except Government productivity ranked 12<sup>th</sup> in terms of GDP per employee and 8<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Other Services, Except Government produced \$64,746 per worker, 13<sup>th</sup> among small businesses, and they generated \$2.26 of SGDP for every \$1 dollar in payroll, 9<sup>th</sup> among small businesses. Other Services, Except Government productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 2.7% from 1998 to 2006 and fell 0.2% during the 2007 to 2014 period. Overall, the number of small businesses grew 2.5% to 674,514. The industry averages 6.8 employees per small business as compared to 10 per small business across all industries.



Establishments in this sector perform essential activities that are often undertaken, in-house, by establishments in many sectors of the economy. By consolidating the performance of these activities of the enterprise at one establishment, economies of scale are achieved.

### 3.12 PROFESSIONAL AND SCIENTIFIC SERVICES SMALL BUSINESS PROFILE



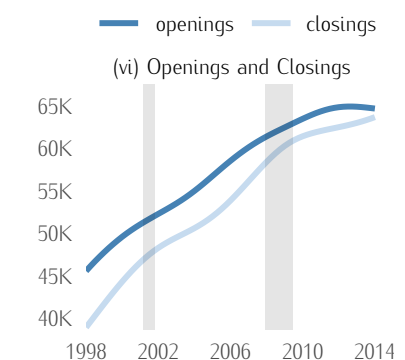
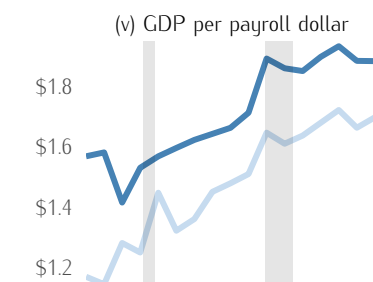
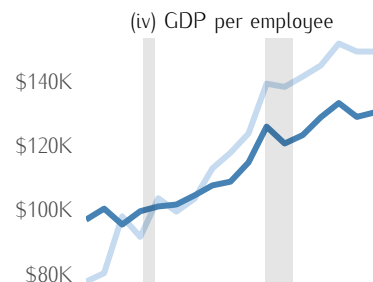
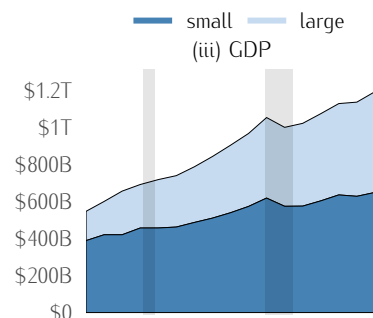
THE PROFESSIONAL AND SCIENTIFIC SERVICES industry produced 8.8% of private non-farm GDP in 2014. The industry was the 5<sup>th</sup> largest overall and 4<sup>th</sup> among small businesses. Its small businesses created \$648.7 billion, or approximately 54.4%, of the \$1.2 trillion industry total in 2014, as compared to 71.1% in 1998. See panels (i) and (iii) for greater detail.

The industry's 8.6 million employees comprised 7.1% of overall private non-farm employment in 2014. It was the 5<sup>th</sup> largest employer among small businesses and 15<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 66.3% in 1998 to 57.7% in 2014.

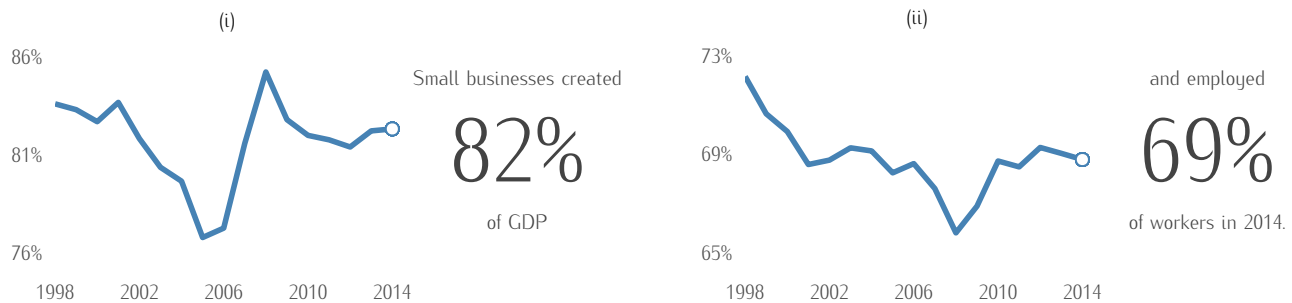
Overall Professional and Scientific Services productivity ranked 6<sup>th</sup> in terms of GDP per employee and 12<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Professional and Scientific Services produced \$130,384 per worker, 5<sup>th</sup> among small businesses, and they generated \$1.88 of SGDP for every \$1 dollar in payroll, 12<sup>th</sup> among small businesses. Professional and Scientific Services productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 22.6% from 1998 to 2006 and grew 0.4% during the 2007 to 2014 period. Overall, the number of small businesses grew 23.1% to 786,915. The industry averages 6.3 employees per small business as compared to 10 per small business across all industries.

THE PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.



### 3.13 REAL ESTATE AND RENTAL AND LEASING SMALL BUSINESS PROFILE



THE REAL ESTATE AND RENTAL AND LEASING industry produced 7.6% of private non-farm GDP in 2014. The industry was the 6<sup>th</sup> largest overall and 1<sup>st</sup> among small businesses.

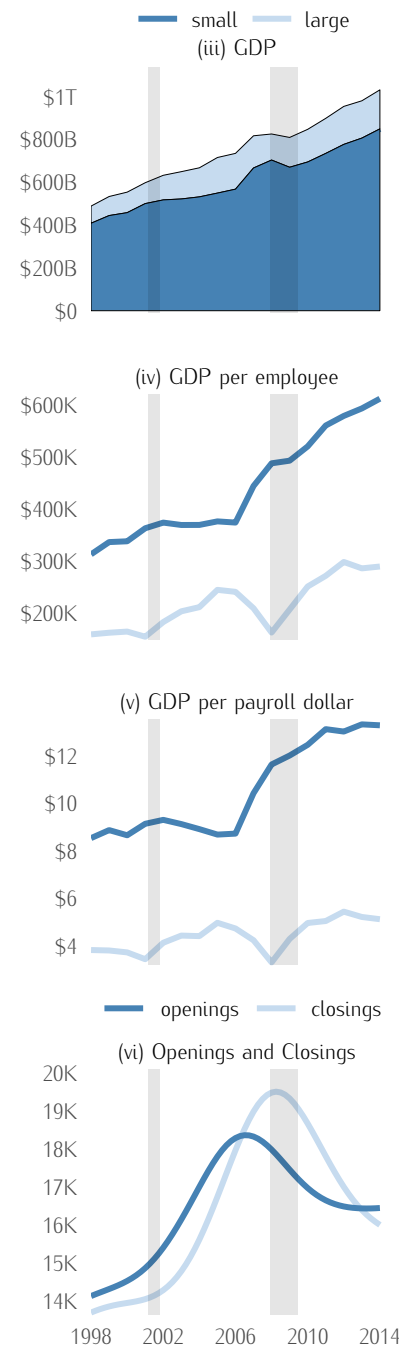
Its small businesses created \$850.3 billion, or approximately 82.3%, of the \$1 trillion industry total in 2014, as compared to 83.6% in 1998. See panels (i) and (iii) for greater detail.

The industry's 2 million employees comprised 1.7% of overall private non-farm employment in 2014. It was the 12<sup>th</sup> largest employer among small businesses and 16<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 72.2% in 1998 to 68.8% in 2014.

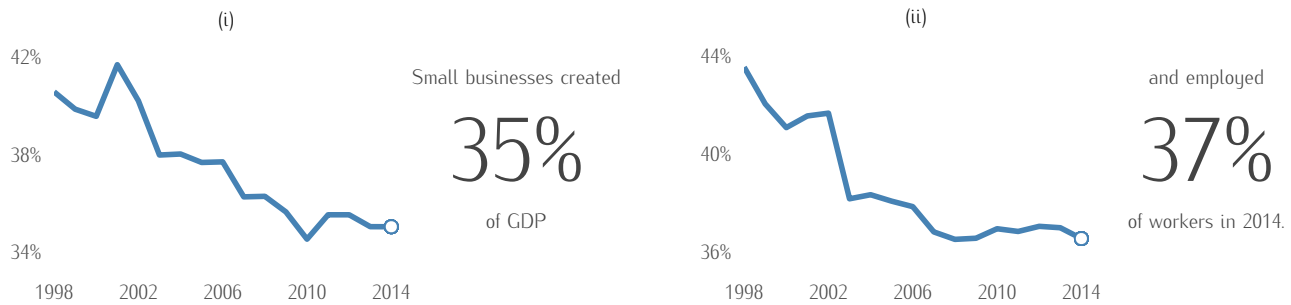
Overall Real Estate and Rental and Leasing productivity ranked 1<sup>st</sup> in terms of GDP per employee and 1<sup>st</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Real Estate and Rental and Leasing produced \$611,575 per worker, 1<sup>st</sup> among small businesses, and they generated \$13.29 of SGDP for every \$1 dollar in payroll, 1<sup>st</sup> among small businesses. Real Estate and Rental and Leasing productivity was higher for small businesses than for large businesses both in terms of real GDP per employee and real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 24.3% from 1998 to 2006 and fell 6.1% during the 2007 to 2014 period. Overall, the number of small businesses grew 16.7% to 281,567. The industry averages 4.9 employees per small business as compared to 10 per small business across all industries.

THE REAL ESTATE AND RENTAL AND LEASING sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. The major portion of this sector comprises establishments that rent, lease, or otherwise allow the use of their own assets by others. The assets may be tangible, as is the case of real estate and equipment, or intangible, as is the case with patents and trademarks. This sector also includes establishments primarily engaged in managing real estate for others, selling, renting and/or buying real estate for others, and appraising real estate. These activities are closely related to this sector's main activity, and it was felt that from a production basis they would best be included here.



### 3.14 TRANSPORTATION AND WAREHOUSING SMALL BUSINESS PROFILE

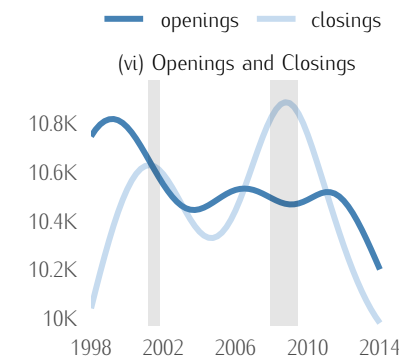
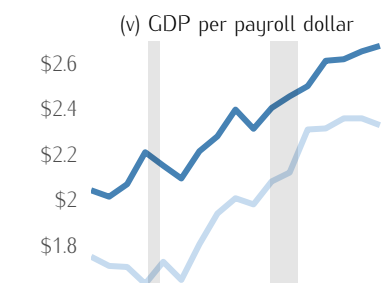
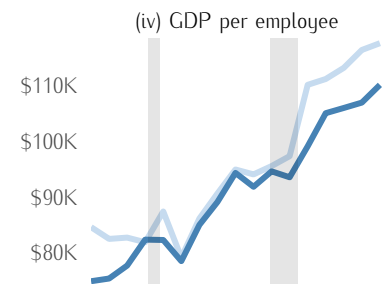
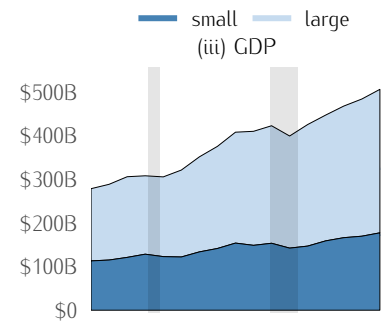


THE TRANSPORTATION AND WAREHOUSING industry produced 3.7% of private non-farm GDP in 2014. The industry was the 10<sup>th</sup> largest overall and 11<sup>th</sup> among small businesses. It's small businesses created \$177.2 billion, or approximately 35.0% of the \$505.7 billion industry total in 2014, as compared to 40.6% in 1998. See panels (i) and (iii) for greater detail.

The industry's 4.4 million employees comprised 3.6% of overall private non-farm employment in 2014. It was the 10<sup>th</sup> largest employer among small businesses and 10<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 43.5% in 1998 to 36.5% in 2014.

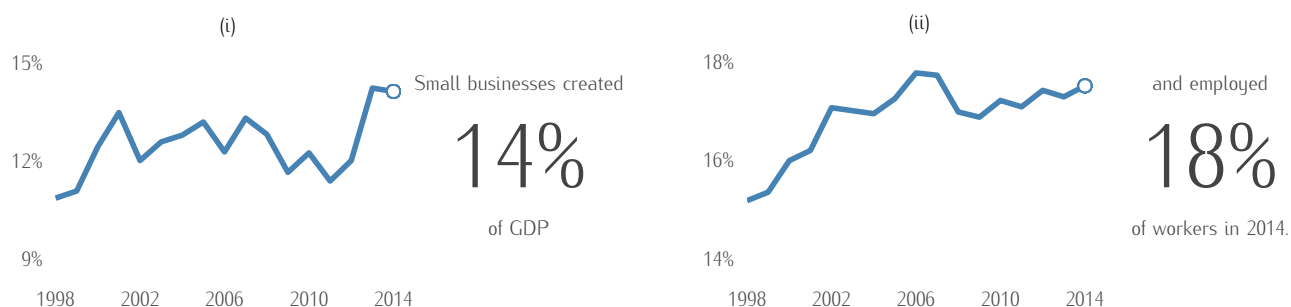
Overall Transportation and Warehousing productivity ranked 8<sup>th</sup> in terms of GDP per employee and 6<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Transportation and Warehousing produced \$110,019 per worker, 8<sup>th</sup> among small businesses, and they generated \$2.68 of SGDP for every \$1 dollar in payroll, 4<sup>th</sup> among small businesses. Transportation and Warehousing productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry grew 12.0% from 1998 to 2006 and fell 0.5% during the 2007 to 2014 period. Overall, the number of small businesses grew 11.5% to 171,251. The industry averages 9.4 employees per small business as compared to 10 per small business across all industries.



THE TRANSPORTATION AND WAREHOUSING sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline.

### 3.15 UTILITIES SMALL BUSINESS PROFILE

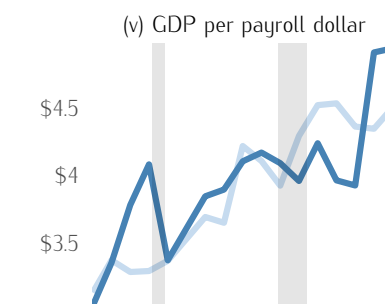
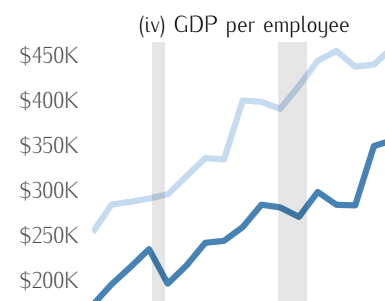
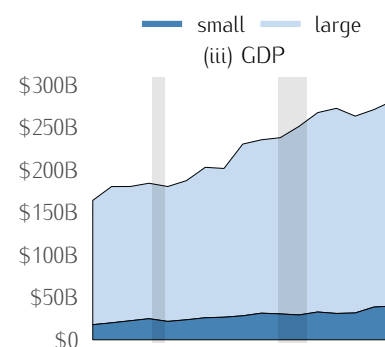


THE UTILITIES industry produced 2.1% of private non-farm GDP in 2014. The industry was the 14<sup>th</sup> largest overall and 16<sup>th</sup> among small businesses. It's small businesses created \$39.6 billion, or approximately 14.1%, of the \$280.8 billion industry total in 2014, as compared to 10.8% in 1998. See panels (i) and (iii) for greater detail.

The industry's 637,840.0 employees comprised 0.5% of overall private non-farm employment in 2014. It was the 16<sup>th</sup> largest employer among small businesses and 3<sup>rd</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment grew from 15.2% in 1998 to 17.5% in 2014.

Overall Utilities productivity ranked 2<sup>nd</sup> in terms of GDP per employee and 2<sup>nd</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Utilities produced \$355,134 per worker, 3<sup>rd</sup> among small businesses, and they generated \$4.94 of SGDP for every \$1 dollar in payroll, 3<sup>rd</sup> among small businesses. Utilities productivity was higher for large businesses than for small businesses in terms of real GDP per employee but is lower in terms of real GDP per payroll dollar.

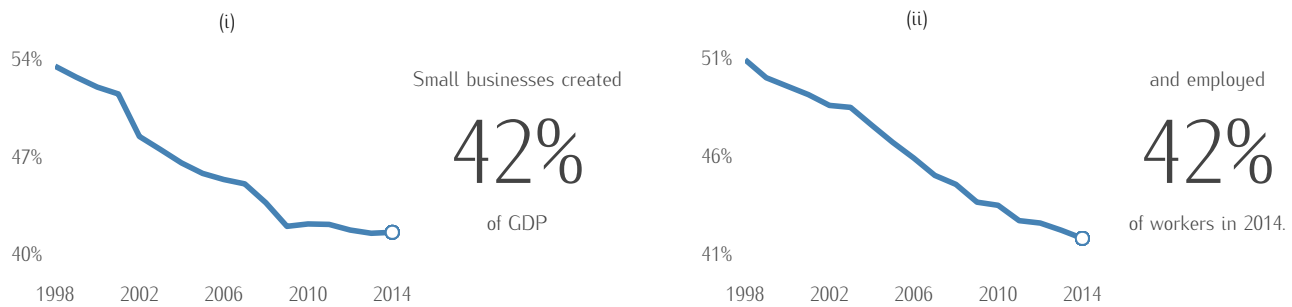
The number of businesses in the industry fell 7.0% from 1998 to 2006 and fell 3.3% during the 2007 to 2014 period. Overall, the number of small businesses fell 10.1% to 5,726. The industry averages 19.5 employees per small business as compared to 10 per small business across all industries.<sup>12</sup>



<sup>12</sup> Figure (vi) is omitted due to Utilities industry data limitations.

THE UTILITIES SECTOR comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal. Within this sector, the specific activities associated with the utility services provided vary by utility: electric power includes generation, transmission, and distribution; natural gas includes distribution; steam supply includes provision and/or distribution; water supply includes treatment and distribution; and sewage removal includes collection, treatment, and disposal of waste through sewer systems and sewage treatment facilities.

### 3.16 WHOLESALE AND RETAIL TRADE SMALL BUSINESS PROFILE

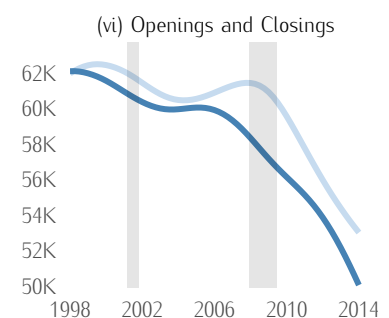
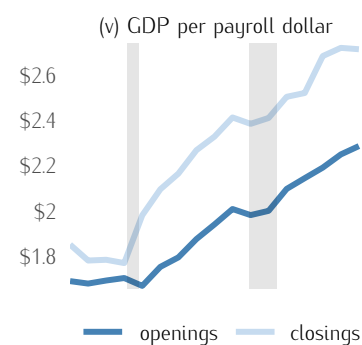
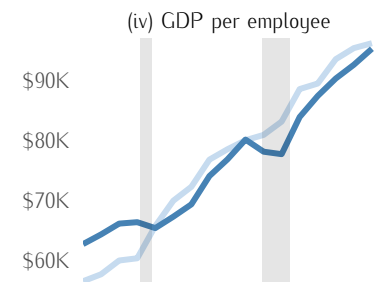
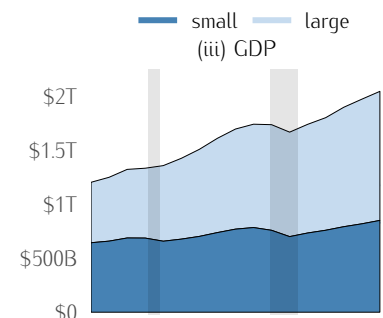


THE WHOLESALE AND RETAIL TRADE industry produced 15.0% of private non-farm GDP in 2014. The industry was the 2<sup>nd</sup> largest overall and 2<sup>nd</sup> among small businesses. It's small businesses created \$848.7 billion, or approximately 41.6%, of the \$2 trillion industry total in 2014, as compared to 53.5% in 1998. See panels (i) and (iii) for greater detail.

The industry's 21.3 million employees comprised 17.6% of overall private non-farm employment in 2014. It was the largest employer among small businesses and 11<sup>th</sup> largest overall. Panel (ii) shows the small business share of employment. Small business employment fell from 50.9% in 1998 to 41.8% in 2014.

Overall Wholesale and Retail Trade productivity ranked 10<sup>th</sup> in terms of GDP per employee and 5<sup>th</sup> in GDP per payroll dollar. Panels (iv) and (v) provide productivity series for both small and large businesses from 1998 to 2014. Small business workers in Wholesale and Retail Trade produced \$95,167 per worker, 10<sup>th</sup> among small businesses, and they generated \$2.29 of SGDP for every \$1 dollar in payroll, 8<sup>th</sup> among small businesses. Wholesale and Retail Trade productivity was higher for large businesses than for small businesses both in terms of real GDP per employee and per payroll dollar.

Panel (vi) shows net quarterly openings. The number of businesses in the industry fell 5.0% from 1998 to 2006 and fell 8.3% during the 2007 to 2014 period. Overall, the number of small businesses fell 12.9% to 955,411. The industry averages 9.3 employees per small business as compared to 10 per small business across all industries.



THE WHOLESALE TRADE sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. Wholesalers are organized to sell or arrange the purchase or sale of (a) goods for resale, (b) capital or durable nonconsumer goods, and (c) raw and intermediate materials and supplies used in production.

THE RETAIL TRADE sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. This sector comprises two main types of retailers: store and nonstore retailers.

1. Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers.
2. Nonstore retailers, like store retailers, are organized to serve the general public, but their retailing methods differ.



## 4 METHODOLOGY

### 4.1 SGDP'S DEVELOPMENT

Joel Popkin and Company's SBA Advocacy sponsored paper, *Measuring Gross Product Originating (GPO) in Small Businesses*, was the first to estimate small businesses' contribution to total US output [Popkin and Company, 1980].<sup>13</sup> The paper established a methodology that traced small business GPO at the Standard Industrial Classification (SIC) industry level from 1955 to 1976. The estimates were created by combining statistics from the US Census Bureau's *Enterprise Statistics* report, the Internal Revenue Service's (IRS) *Statistics of Income*, and the BEA's *Survey of Current Business*. The small business share of aggregated GNP for the earliest reported period was roughly 51.4% for 1958.<sup>14</sup>

Subsequent Popkin reports refined the methodology and updated the years of coverage to include newer data [Popkin and Company, 1981a,b, 1982, 1997, 2001, 2002b].

In *The Small Business Share of GDP, 1998-2004*, Economic Consulting Services' (ECS) Kathryn Kobe pioneered a series of innovative improvements to the methodology as more data sources became available [Kobe and Services, 2007]. The report evolved from GNP-based GPO to GDP reporting and incorporated additional industrial detail made possible by the availability of data classified according to the NAICS system. Another notable refinement involved the experimental treatment of unincorporated large businesses which were previously treated as small businesses.<sup>15</sup> This change appeared to diminish the small business share of GDP by about 2%. Kobe's *Small Business GDP: Update 2002-2010* streamlined the treatment of unincorporated large businesses and the calculation of non-compensation components of SGDP [Kobe, 2012a].

The methodology in this paper, detailed in Section 4, is based on the 2012 Kobe methodology [Kobe, 2012a]. Notable changes are confined to data handling and general reproducibility of the report. The SGDP series technically exist back to the 1950s. Only the period after 1997 is examined due to the change from SIC industry classifications to NAICS classifications. Data provided by the Bureau of Economic Analysis (BEA) form the foundation for calculating SGDP. The following section provides a brief overview of the methodology for measuring SGDP and its historical development.

<sup>13</sup> As a primary resource for small business economic research, the US Small Business Administration's (SBA) Office of Advocacy is tasked with conducting, sponsoring, and promoting economic research that provides an environment for small business growth.

<sup>14</sup> BEA's *Survey of Current Business* (SCB) reported gross product originating (GPO). GPO refers to each SIC sector's contribution to gross national product (GNP).

<sup>15</sup> Large unincorporated businesses are typically limited liability company (LLC) partnerships. Section 4 discusses the rise of LLCs in response to a 1988 IRS ruling recognizing the then-new form of organization.

## 4.2 CALCULATING SGDP

The methodology mirrors past SGDP methodologies [Kobe, 2012b]. The calculations begin with the BEA's GDP by industry data.<sup>16</sup> The data show nominal GDP broken into major industries and by major value-added components of income. BEA does not provide data by firm size. Consequently, estimating SGDP requires the division of the components of GDP into the small and large business shares for each industry.

Once all of the components are estimated for each industry, the small business portions of compensation and each of the non-compensation components are summed for each industry. When that small business total is divided by the industry GDP total, it produces the small business share for that industry. Also, each of the components is summed across all industries to produce small and large business shares of compensation for the total non-farm private economy, and small and large business shares of the non-compensation components. Summing the compensation and non-compensation components for each size group produces the small and large business shares of total GDP.

There are two components for compensation: wages and salaries and supplements (which includes employee benefits paid by the employer.) Non-compensation is broken down into four components: taxes on production and imports less subsidies, consumption of fixed capital, business transfer payments, and other net operating surplus (which includes net interest payments and profit-type income). The final three of these non-compensation components are also referred to as gross operating surplus.<sup>17</sup>

With the release of the 2007 Input-Output (IO) tables, BEA fully integrated the Input-Output tables with the National Income and Product Accounts (NIPA). Prior to that, some components of the industry value added estimates could not be matched back to the NIPA components. This integration means that the NIPA annual components can more easily be used to estimate the corporate and non-corporate breakdowns.

Industry totals require one adjustment. Owner-Occupied Housing (OOH) is treated as a business in the industry accounts (and the NIPAs), and is included in the real estate industry. Therefore, the real estate components contain several imputations that are meant to approximate the imputed rental value of the house to the homeowner and the depreciation, etc. that would be deducted if the homeowner is actually renting out the property rather than living in the house. These imputations are subtracted from each of the value added components before the real estate industry is split between large and small business.

<sup>16</sup> The BEA builds its GDP estimates upon detailed economic census data which are available only once every five years. An array of monthly, quarterly, and annual economic indicators are then combined to extrapolate GDP between economic census years. More recent GDP estimates are less precise and are subject to significant revision. Around 25% of the data needed to make initial monthly GDP estimates are unavailable at publication so past trends are used instead [Landefeld et al., 2008]. BEA produces both real and nominal estimates of GDP. GDP components are always given in nominal dollars however; only the overall industry GDP number is deflated. Consequently, nominal shares are produced first and summed for the business size GDP measure. Real measures of output are estimated by deflating the nominal GDP value by the industry deflator. Unfortunately, there are no data from which different price indexes for the large business and SGDP series can be calculated. Consequently, deflating these measures may generate misleading results.

<sup>17</sup> In an appendix to the IO tables, the BEA also shows gross operating surplus broken down into two components, one for corporate and one for non-corporate businesses. The latter breakdown is more useful for the separation of the GDP by business size because the methodology uses different techniques for the corporate and non-corporate portions of the calculations.

#### 4.2.1 COMPENSATION COMPONENTS THROUGH 2013

*Wages and Salaries* The calculation of the compensation shares by industry and firm size are discussed first. BEA provides industry compensation in two parts, wages and salaries and what it calls supplements, which are mostly employers' costs associated with the benefits provided to employees.<sup>18</sup> Separating the wages and salaries by firm size is straightforward. Payroll shares for large and small businesses are calculated for each of the sixteen industries for each year from 1998 through 2013 directly from the Census Bureau's SUSB data.

Payroll shares are used to separate each industry's wages and salaries between the two business size classes.<sup>19</sup> The SUSB data are adjusted to remove the payroll associated with hospitals owned by the local, state, and federal governments.<sup>20</sup>

*Benefits (Wage Supplements)* The benefits shares are calculated using a different method. If benefits are allocated to firm size group according to the payroll shares then the small business share of benefits is over-estimated. Several studies have shown that small businesses provide fewer pension and health insurance benefits than do large businesses [Popkin and Company, 2002a].

The BEA separates its benefits data into two categories: those that are considered government social insurance (such as Social Security and Medicare taxes) and those that are voluntary, such as health insurance and pensions. BEA publishes some industry detail for benefits paid for the social insurance programs. Separately, the total amount paid by private business for health insurance, life insurance, pensions and workers compensation insurance is also provided, but with no industry detail.

The BEA provides industry detail for the social insurance portion of benefits. Consequently, those are allocated to large and small business. That is done using the industry payroll shares since most of the social insurance taxes are calculated as a specific percentage of payroll.

Once the social insurance portion is subtracted from the total supplements, leaving one total representing the value of other benefits by industry. Those include health insurance, life insurance, pension and retirement payments made by companies, and workers' compensation costs. The Bureau of Labor Statistics' data from Employer Costs for Employee Compensation show the average cost per hour paid for each of these types of benefits across all employers in an industry sector. For each year, the pension, health and life insurance, and workers' com-

<sup>18</sup> Annual BEA data through 2014 are used.

<sup>19</sup> The 2014 SUSB data were released as this paper was finalized; therefore, the shares are only calculated through 2013 based on the data available when the calculations were completed.

<sup>20</sup> BEA includes government hospitals in the government sector along with government-run schools. SUSB does not include government-run schools in its definition of education services; therefore it is not necessary to make a similar adjustment to the educational services share of the SUSB.

pensation shares of total costs are calculated. Those shares are used to allocate the “other supplements” to their respective benefit types. After the allocations are completed, each type of benefit is separated between its large and small business components.

Workers’ compensation is allocated to firm size categories according to payroll shares since, like social insurance, it tends to be calculated from payroll amounts. The other two categories are more complicated to separate by firm size, since health insurance and pension/retirement savings contributions are voluntary and vary by employer. Two different data sources are consulted to estimate those shares.

The Medical Expenditure Panel Survey (MEPS) data for the periods from 1998 to 2014 are used to estimate the provided small and large business shares of the health insurance benefits. The MEPS data were used to calculate an average premium cost per employee by industry and firm size group. This is done by calculating the total bill for employees covered by insurance for each firm size and industry group, then dividing the total by the total number of employees (covered and not covered).<sup>21</sup>

The previous step produces a cost per employee for each industry for several firm size groups; each of these is then multiplied by the employees in each of the matching firm size groups in SUSB to produce a health insurance bill bench-marked to the SUSB employment totals. Once the health insurance bill is calculated for each of the firm size groups they are summed across the appropriate subset of groups to obtain the small and large business shares.<sup>22</sup>

The final benefit type is pensions. Unfortunately, data on pension expenses by company size are inferior to the data for medical insurance expenditures. There is one method for approximating these figures however. The IRS provides information on the deductions companies take for payments into pension and retirement savings plans in its *Statistics of Income*. Those data are collected following the procedures discussed below for the non-compensation components, and are used to allocate the pension payment totals by industry to large and small business. Once all three categories of the “other” benefits are separately allocated to large and small businesses, they are combined with the social insurance benefits and produced an estimate of total supplements for each firm size and industry group.

After the wages, salaries and benefits are separated between large and small business for each industry, they are added together to determine a compensation total for small and large business for each industry. The compensation totals for small business for all industries is then

<sup>21</sup> The MEPS data were not produced for 2007. Consequently, the 2007 shares were calculated by averaging the 2006 and 2008 cost per employee for each industry/size cell combined with the 2007 employee distribution from the SUSB data.

<sup>22</sup> Life insurance is allocated using the same shares as health insurance. That is somewhat arbitrary, but the two types of insurance are often offered at the same time. Life insurance is a very small part of the total benefits package and its allocation is unlikely to cause any major change in the compensation shares.

totaled to determine a small business share of overall compensation for the private non-farm economy.

#### 4.2.2 NON-COMPENSATION COMPONENTS THROUGH 2013

The calculation of the small business shares of the non-compensation components is a multi-step process that uses data from SUSB combined with IRS statistics. There are five non-compensation components for each industry from the BEA data are divided into large and small business components: indirect business taxes, business transfer payments, net interest, corporate depreciation and profits, and non-corporate depreciation and profit-type income. Three of those components are shared out with the corporate and non-corporate information combined, but the corporate depreciation and profit-type income component is shared out separately from the non-corporate depreciation and profit-type income component.

The Internal Revenue Service's *Statistics of Income* data provide tax return detail for the three major taxpaying forms of legal organization: corporations, partnerships and sole proprietorship. It shows detailed tax-related information for these businesses, such as the amount of business receipts, interest paid, depreciation and net income (or loss) for each year by industry. For corporations, it shows all of these components by major industry category broken down by major receipts size classes. This latter set of tables is used to estimate the small and large business shares of corporate payments.

In general, the GDP components "indirect business taxes" and "business transfer payments" are divided based on the portion of SOI business receipts that are allocated to large and small businesses because those payments are often determined by receipts. The GDP component "net interest payments" is allocated to business size using the SOI's large and small business shares of interest paid.

The final component, depreciation and profits combined, for corporations is divided between large and small business using the sum of the depreciation and net income (less deficit) lines from the SOI corporate tax tables. The non-corporate depreciation and profits component is assumed to be entirely small businesses through 2001. From 2002 onward, that component is split between large and small business by assuming that all the depreciation and net income of the sole proprietorship should be allocated to small businesses, and allocating the partnership information based on the large and small business receipts shares for partnerships that are calculated from the SUSB data showing the legal form of organization.

The IRS data have detailed information on the different components of a business's income but the data are not known by the employment size of that business. Consequently, the first step in the methodology is to use the Census Bureau's SUSB data to produce a share of receipts for each industry sector associated with the companies that have 500 or more employees for two benchmark years from the Census Bureau's data. For this update, the data from the 2002, 2007 and 2012 SUSB data are used.<sup>23</sup> For these two benchmark years, the Census Bureau estimates receipts by business size group for the employer businesses included in the SUSB data.

<sup>23</sup> Receipts share are included in the SUSB only in years when the economic censuses have been conducted: 2002, 2007, and 2012.

To take the fullest advantage of the IRS statistics, one needs the SUSB data further dis-aggregated by legal form of organization. The Census Bureau produces tables that show employment, payroll, and receipts data (the latter only for 2002 and 2007) by legal form of organization for each major industry separated by the employment size of the firms. This information is used to calculate the large business share of receipts for (taxpaying) corporate businesses in 2002 and 2007 and interpolated between those years.

Once the large business share of corporate receipts is calculated for each year, the IRS Statistics of Income data could be used to make share estimates for the detailed non-compensation components of GDP. To calculate the corporate business size shares from the SOI tables, the large business share of corporate receipts is used to determine the average receipts size of a large business. This provides the break-point in the distribution of the other components by business size that approximates what should be allocated to large corporate businesses and what should be allocated to small corporate businesses.

SUSB tables showing the legal form of organization provides more information about partnerships and sole proprietorship than was previously available.<sup>24</sup> For the most part, sole proprietorship are overwhelmingly small businesses. Consequently, the SOI data for sole proprietorship continues to be allocated to small businesses. Partnerships are increasingly used by larger and larger businesses. The 2002, 2007, and 2012 SUSB tables by legal form of organization provides a basis for calculating how much of the partnership information should be allocated to large businesses. The SOI does not distribute its partnership data by receipts size as it does for its corporate data. Consequently, the business receipts share for the partnerships in each industry is used to split the other components by firm size.

<sup>24</sup> Prior to 2002, the amount allocated to small business corporations has been added to the total amount reported for partnerships and sole proprietorship in order to produce an estimate of the total small business payments for each of the SOI proxies that are used to divide the non-compensation components of GDP.

Once each of the shares is calculated from the IRS SOI tables are used to proxy the large and small business shares of the BEA data. The calculated SOI shares are applied directly to the corporate business

components of the GDP by industry data.<sup>25</sup>

It is likely that a larger share of small business income than that of large business income is allocated to non-compensation shares because the wage income of partners and proprietors is allocated to profit-type income for non-corporate businesses, whereas the wages of corporate owners are considered part of compensation. Also, the distribution between corporate and non-corporate depreciation and profits, as measured in the GDP numbers, weights the non-corporate side more heavily than it is weighted in the IRS statistics. This may be because the BEA makes estimates for under-reported income which is somewhat more likely to occur in the non-corporate sector.

<sup>25</sup> This methodology is different from that used in making earlier estimates of GDP by business size [Popkin and Company, 1982, 2002c]. When SIC-based estimates were calculated, the SOI shares could be bench-marked using a special SBA study that had allocated the IRS SOI data by firm employment size with the firm size determined by payroll tax form 941. That study is now antiquated and was never replicated; therefore that step is not used in the current methodology.

### 4.2.3 ESTIMATES FOR 2014

The first SUSB tables for 2014 were released as this report was finalized and could not be included in the SGDP calculations. The IRS data are not yet available for 2014, but GDP by industry data are available for that period. Consequently, an estimate of the 2014 small business shares is produced by reviewing other information on relative movement of employment and payrolls by firm size.

Employee and business count data from the 2014 SUSB data are included in the appendix and industry profiles.

To estimate payroll shares, the BLS' Quarterly Census of Employment and Wages is used to estimate the likely direction and magnitude of the change in the small business share from 2013 to 2014. Those data are used to estimate the small business payroll share for 2014. MEPS data are available through 2014 and 2013 SUSB employment totals are used to estimate the 2014 health insurance bill for health insurance by firm size. The pension share is based on 2013 share information.

The information on corporate and non-corporate profits show some interesting differences by industry. For example corporate profits in the finance and insurance industry grew strongly in 2014, while the non-farm proprietors' income in that industry declined substantially. There is little data available to judge the overall magnitude and direction of such changes by business size until the 2014 IRS statistics are published. Consequently, the 2014 estimates are much more speculative than those for the earlier years.

## 5 DISCUSSION

Section 5.1 discusses the implications of SGDP with an emphasis on the past and present challenges to small businesses discussed in the

literature. Section 5.2 highlights the importance of small businesses in job creation and the worrisome decline in dynamism. Section 5.3 discusses additional related research.

## 5.1 CHALLENGES TO SMALL BUSINESSES

After bottoming out in 2009 SGDP steadily grew to pre-recession levels by 2011 and to new highs by 2014. In contrast, neither the number of small businesses nor small business employees recovered to pre-recession levels by 2014. Large businesses, on the other hand, quickly rebounded from the recession and reached new heights for all three series by 2014. In this sense, small businesses were more adversely affected by the 2008 recession than large businesses. Perhaps surprisingly, the recession's impact only explains a small part of the almost 6% decline in small businesses' GDP share from 1998 to 2014. The small business share fell almost 4% during the 8 years preceding the recession and only 1.2% in the 8 years during and after the recession. This difference points to structural, as opposed to cyclical, explanations for the observed decline in small business GDP shares. Potential forces at work include the rise of big box stores, the critical role of credit for small businesses, economies of scale in globalization, declining dynamism, and changing industry mix.

Dynamism refers to the births and deaths of businesses.

THE RECESSION HARMED SMALL BUSINESSES. [Fort et al. \[2013\]](#) use a longitudinal database to analyze the different impacts of the recession on young businesses and older businesses. They conclude that young, small businesses experienced especially large declines in net employment growth and job creation in the 2007–2009 recession, and that those businesses also experienced large increases in job destruction over the same period. Large and mature businesses also experienced substantial declines in net employment growth over this period, and since such businesses account for most employment it follows that they account for a larger share of job loss. However, they find that young/small businesses are more cyclically sensitive so that the relative decline in this period is greater for young and small businesses than for large and mature businesses. The authors find a connection between the weakness of young, small businesses and housing price declines. However, these authors consider a number of channels that possibly work toward making young and small businesses more vulnerable in general to cyclical shocks and to housing prices in particular. Because research has shown that startups and young businesses are more likely to use home equity for financing, it may reflect the mechanism that yielded the tight connection between the decline in housing prices and



the decline in net growth for young and small businesses, as Mach and Wolken suggest. However, this study also found that the impact of the collapse of housing prices on young and small businesses is concentrated in the Construction, Retail Trade, FIRE and Service sectors. They suggest that more research is needed to determine if the home equity financing channel of young businesses is especially important in those sectors.

**BIG BOX STORES CHANGED THE SMALL BUSINESS LANDSCAPE.** [Haltiwanger et al. \[2009\]](#) analyze one of the major shifts from small business to large business domination in an industry, the growth of big-box stores in retail trade. Using a longitudinal dataset of businesses, the authors analyzed the impact on small retailers of a big-box store entering into the geographic area where they are doing business. The authors' main finding is that the entry of a big-box store generates a substantial negative impact on employment growth at both single unit and especially smaller chain stores (mostly due to store exits), but only if the big-box store's activity is in the immediate area and in the same detailed industry. The negative impact is reduced as the distance increases between the new entry and the established smaller businesses. However, some businesses may show a benefit from the entry of the big-box store, smaller chain restaurants seem to benefit from the entry of a big-box retailer.

**CREDIT AVAILABILITY IS CRUCIAL.** [Mach and Wolken \[2012\]](#) analyzed the effects of credit availability on small firm suitability over the period 2004 to 2008 for non-publicly traded small enterprises. Their failure prediction models were developed for a sample of small businesses that were confirmed to have been in business as of December 2003. They found that credit constrained businesses were significantly more likely to go out of business than non-constrained businesses. Moreover, credit constraint and credit access variables appear to be among the most important factors predicting which small U.S. businesses went out of business during the 2004-2008 period even though an extensive set of firm, owner, and market characteristics were also included as explanatory factors. By definition, credit-constrained businesses are not able to easily access normal bank loans and therefore use more expensive forms of credit such as credit cards or trade credit. Since many small companies depend on the value of their personal property (such as a personal residence) as collateral for business loans, the loss in value of that personal property during the recession caused more companies to become credit constrained.

CONSTRUCTION IS DOMINATED BY SMALL BUSINESSES. Hyatt and McEntarfer [2012] used a multi-state pilot study of the Census Bureau's planned dataset on national job-to-job flow statistics derived from the Longitudinal Employer-Household Dynamics (LEHD) infrastructure files. These are files that link information about an employer with information about the employees working for that employer. This preliminary study using limited information focused on the job separators in residential construction (a small business dominated industry) and into new jobs. During the most recent recession, even those who found a new job in residential construction relatively quickly, suffered a decline in median wages of about 0.6 percent. Those that moved from residential construction to other industries suffered a larger wage decline, 3.4 percent on average. This study indicates that payrolls and possibly payroll shares were impacted not only by reductions in employees but in reductions in pay to new employees added to the payroll.

BUSINESS DYNAMISM IS DECLINING. Small businesses cease to be counted as such when they grow into large businesses or when they close their doors.<sup>26</sup> A constant replenishment of small businesses from new startups or shrinking large businesses is therefore required to maintain the small business share of the overall economy. The relatively slight, but steady, decline in business openings since 2007 is therefore likely to diminish small business GDP shares.

EVOLUTION OF THE SERVICE SECTOR IS DRIVING THE DECLINING SMALL BUSINESS SHARE OF EMPLOYMENT. Headd [2015] identifies the maturing age distribution of businesses in service industries as a factor contributing to the declining small business share of employment. That service industries, which typically have higher than average small business shares of employment, would be responsible for the decline is counter-intuitive. Headd demonstrates that the aging of the workforce and of firms using the underlying small business employment shares and workers' age data. He further suggests that these trends might explain the fall in dynamism beginning in 2000.

Figure 7 plots small business employment levels and small business employment shares for 4 industries over time.<sup>27</sup> Each cluster of points shows the small business shares and levels of employment for a given industry over time with the years 1998 and 2014 marked. A linear trend line suggests the overall relationship over time. Consider the Professional and Scientific Services industry for example. As employment increased from approximately 4 million in 1998 to 5 million in 2014, the small business share of employment fell from 66% to 58%. Overall, small

<sup>26</sup> *Births* are counted when business establishments hire at least one employee for the first time. *Openings* measure *births* plus seasonal re-openings. Similarly, *deaths* occur when establishments having at least one employee later have none and remain closed for at least a year. *Closings* measure deaths plus seasonal shutterings. The industry profiles report *openings* and *closings* because the industry-level birth and death statistics are unavailable.

<sup>27</sup> For a figure including all 16 industries, see [Appendix](#).



Figure 7: Small Business Employment Levels and Shares

business employment *increased* in 14 of 16 industries yet the small business share of employment *fell* in 13 of 16. From this perspective, the underlying statistical evidence suggests that the declining small business shares of employment in these services industries is due primarily to faster growth in large business employment and not due to shrinking small business employment.<sup>28</sup>

<sup>28</sup> See [Appendix](#).

Decker et al. [2014] refine the earlier research, and reiterate the important role young businesses (and almost always small businesses) play in job creation. The authors also note there is a decline in the annual startup rate for new businesses from about 12 percent (of all businesses?) in the 1980s, to 10.6 percent just before the recession, to below 8 percent in the immediate aftermath of the recession. In short, the author's find that the share of young businesses in the economy, and the share of activity for which they account is declining. The authors find that this decline in startup activity is present in all broad industrial sectors and in all U.S. states, implying some common factors that are not sector or geographic specific.

## 5.2 LARGE BUSINESS GROWTH

As shown in [Section 2.2](#) (Figure 4), the decline in small business GDP shares is due, in part, to faster growth among large businesses.

A reasonable hypothesis for the decline in small business GDP is that an underlying shift in demand toward industries dominated by large businesses is occurring. The data do not support this view. The industry mix remained relatively unchanged from 1998 to 2014 and the small business share of GDP fell both among industries whose GDP was generated mostly by small businesses and among those composed primarily of large business GDP. Consider that the small business share of Manufacturing and Mining fell from 32% to 27% while the small business share of Construction fell from 89% to 81%. In the largest demand shift among all industries, the Health Care and Social Assistance industry grew from the 5<sup>th</sup> largest in 1998 to the 3<sup>rd</sup> largest industry in 2014 while its small business share fell from 52% to 47%.

In the past, shifts toward small business service industries picked up the slack due to declining small business manufacturing.

Factors unique to large businesses may help explain their strong growth. Economies of scale due to increased globalization, for instance, may explain part of this growth. Larger firms can spread the legal, logistical, and translation costs of importing and exporting. This allows larger firms to access markets otherwise unaffordable to small businesses. Reduced competition from small businesses due to declining start up rates and lack of vibrancy among small businesses may play a role. Faced with fewer rivals, some large businesses might be enabled to invest in expansions where they otherwise would not.

## 5.3 OTHER RELATED ANALYSES

Using a methodology similar to that of the SBA, [Rispoli and Leung \[2014\]](#) estimate the share of Canadian GDP attributable to small (less than 100 employees) and medium size (100–499 employees) enterprises and compare those to similar shares in the U.S. economy. The authors find that Canadian small and medium size enterprises (SME) have a larger share of the Canadian economy than their counterparts do in the U.S. economy (53.4% of business sector GDP in Canada in 2008 compared with 46.1% in the US.) Both countries have experienced declining SME shares of GDP between 2002 and 2008. The authors have somewhat more information from tax records (as tabulated for the Canadian estimates of GDP) than are directly available for use in the U.S. estimates, especially for the non-corporate non-compensation components. It is unclear if this provides additional levels of industry disaggregation than the records used for the US tabulations.

[Abowd and Vilhuber \[2011\]](#) compare estimates of gross job flows from three sources, the Census Bureau's Quarterly Workforce Indicators (QWI), the Census Bureau's Business Employment Dynamics (BED) data, and the Bureau of Labor Statistics' Job Openings and Labor Turnover Survey (JOLTS). The latter two data sources have been used in the past for estimating changes in relative payroll shares for periods after the last observation from the Statistics of U.S. Businesses' database. It has been noted in past small business GDP research that these two data sets do not always provide consistent information on employment trends by industry and firm size. Therefore, studies that look at the available datasets can provide insights that are useful in that portion of the GDP analysis. The study finds some differences between the two Census Bureau datasets (which are based on Unemployment Insurance filings) and the JOLTS data (which are based on a survey). One possible reason for this difference is that the JOLTS survey is not picking up establishment births and deaths whereas the other data do tend to incorporate at least some of those changes.

[Kochhar et al. \[2015\]](#) analyzed information on the self-employed from the 2014 Current Population Survey and found that 14.6 million workers identified themselves as self-employed, about one-tenth of the workforce. Of those, about 3.4 million (a quarter of the self-employed) are also employers, providing jobs for about 29.4 million other workers. Among these employers, the median number of paid workers is 3, and the average is 8.6. Most of the self-employed run unincorporated businesses, but, those who employ the most people are incorporated (employing 22.5 of the 29.4 million employees who worked for self-employed employers.) The largest number of self-employed workers is in the professional and technical fields, followed by construction, trade, and health and educational services. The author also discusses the differences in reported self-employment between the Current Population Survey (CPS) and the Survey of Business Owners. The latter survey is only conducted during the 5-year business censuses but identifies more business owners than does the CPS count.

[Anderson \[2009\]](#) uses business valuation methods to estimate the value of privately held businesses in the United States. GDP is a measure of output, not of value, so Anderson's techniques do not directly assist in making the GDP estimates. He is however using similar data sources for his work, primarily the IRS Statistics of Income data. For example, Anderson separates out the C corporations from the S corporations in his analysis primarily because the S corporations by definition are small, privately held companies. Such a dichotomy may provide some insights into the way the Statistics of Income data are used for this analysis. Anderson's estimates for 2002 indicate that privately held

businesses were worth more than publicly held businesses (\$12.4 trillion compared with \$7.2 trillion) and that privately held businesses generated more earnings than publicly held companies (\$753 billion compared with \$181 billion). In evaluating such numbers it is important to remember that privately-held businesses greatly outnumber publicly-held companies.

## 6 CONCLUSION

The data indicate that SGDP increased over the 1998 to 2014 period but that the percentage of overall GDP attributable to small businesses declined from 49.2% to 43.2%. If job creation and innovation are driven by the share of small businesses in the economy then the falling small business GDP and employment shares is concerning.

A careful look at the data reveals that declining small business GDP shares were due, in large part, to faster growth among large businesses in all but two industries.<sup>29</sup> Productivity was measured to be \$103,000 per employee for small businesses versus \$122,000 for large businesses. In contrast, productivity was \$2.44 per payroll dollar for small businesses versus \$2.20 for large businesses. A variety of factors help to explain the decline in SGDP shares and differences in productivity.

Large businesses experienced relatively faster growth of compensation costs due to faster growth in the number of employees per firm and growth in the average number of establishments that each large firm operates.<sup>30</sup> Furthermore, the number of large businesses grew more strongly during the first half of the period than during the second half. The overall number of small businesses declined during post financial crisis period and has not fully recovered.

On average, large businesses generate more output per employee than do small businesses. Despite an increase in the average number of employees per firm among large businesses, they increased receipts per employee more quickly than have small businesses between 2007 and 2012. This may reflect large businesses better ability to invest in and utilize capital and may also reflect the faster bounce-back of the large businesses post-recessions.

As small businesses prosper, they often change from a small business to a large businesses or they are acquired by a large business. Large businesses may become small businesses but it is more likely that they either fail or merge if they are shrinking. Consequently, while the large firm share is bolstered by the successes of small businesses, the small

<sup>29</sup> The relatively small Utilities and Management of Businesses industries experienced slightly more small business growth.

<sup>30</sup> The average size of large businesses increased over this period from about 1600 employees per firm to 1727 employees per firm. Small businesses remained very constant at about 10 employees per firm.

business shares of GDP depend more heavily on new firm starts and continuing successes.

Small businesses are vital to the US economy because they employ a large share of US workers, generate a large share of US GDP, and provide the innovative churn that fuels competition and long-run growth. The SGDP estimates provided in this report can serve as a reference tool for researchers, policymakers, and other entities interested in how small firms are performing across industries.

*Special thanks are due to Xie [2012], Wickham [2007], Wickham and Francois [2015], Wickham [2016c], Mertz and Slough [2007], Neuwirth [2014a], Feinerer and Hornik [2011], Johnson [1992], Tennekes and De Jonge [2014], Wilke [2017], Wickham et al. [2017], Chang [2014], Wickham and Chang [2017], Slowikowski [2017], Arnold [2017], Auguie [2017], Zhu [2017], Xie [2017], Balcilar [2007], Rinker and Kurkiewicz [2017], Daróczy and Tsegelskyi [2017], Wickham [2016a], Neuwirth [2014b], Wickham [2016b], Wickham [2017], Sharpsteen and Bracken [2016], Betebenner [2017], Tennekes [2017], Xie and Allaire [2016], Rudis and Gandy [2017], Schwartz and various authors for Perl modules listed in each .pm file. [2015], and Schwartz and various authors for Perl modules listed in each .pm file. [2015].*

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## 7 APPENDIX

### 7.1 GDP

#### 7.1.1 OVERALL PRIVATE NON-FARM NOMINAL GDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$7.2T	\$7.7T	\$8.2T	\$8.4T	\$8.6T	\$9T	\$9.6T	\$10.3T	\$10.9T	\$11.4T	\$11.5T	\$11.1T	\$11.6T	\$12T	\$12.6T	\$13T	\$13.6T
Manufacturing and Mining	\$1.5T	\$1.6T	\$1.7T	\$1.6T	\$1.6T	\$1.7T	\$1.8T	\$1.9T	\$2.1T	\$2.2T	\$2.2T	\$2T	\$2.2T	\$2.3T	\$2.4T	\$2.5T	\$2.6T
Wholesale and Retail Trade	\$1.2T	\$1.2T	\$1.3T	\$1.3T	\$1.4T	\$1.4T	\$1.5T	\$1.6T	\$1.7T	\$1.7T	\$1.7T	\$1.7T	\$1.7T	\$1.8T	\$1.9T	\$2T	\$2T
Health Care and Social Assistance	\$531.2B	\$561.4B	\$595.4B	\$642B	\$692.7B	\$738B	\$788.8B	\$828.9B	\$883B	\$925.9B	\$996B	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T	\$1.2T
Finance and Insurance	\$639.8B	\$679.5B	\$750.4B	\$817.5B	\$835.2B	\$866.8B	\$890.3B	\$991.8B	\$1T	\$1T	\$907.2B	\$969.3B	\$1T	\$1T	\$1.1T	\$1.2T	\$1.2T
Professional and Scientific Services	\$546.8B	\$600.2B	\$656B	\$691.6B	\$718.2B	\$739.5B	\$787.4B	\$842.8B	\$903.7B	\$967.3B	\$1.1T	\$1T	\$1T	\$1.1T	\$1.1T	\$1.1T	\$1.2T
Real Estate and Rental and Leasing	\$489.2B	\$534.1B	\$554.4B	\$598.5B	\$633.2B	\$650.2B	\$668.3B	\$716.4B	\$735.7B	\$818B	\$826.4B	\$810.2B	\$848.1B	\$899.5B	\$955.4B	\$981.6B	\$1T
Information	\$435.5B	\$486.1B	\$472.2B	\$501.2B	\$549.5B	\$564B	\$620.8B	\$641.6B	\$649B	\$702.4B	\$730.5B	\$705.3B	\$730.2B	\$728.4B	\$737.5B	\$793.8B	\$824.7B
Construction	\$380.5B	\$418.4B	\$462.3B	\$488B	\$494.9B	\$527.1B	\$587.5B	\$654.1B	\$698.2B	\$715B	\$653B	\$577.3B	\$541.6B	\$546.6B	\$583.6B	\$619.9B	\$664B
Administrative and Support Services	\$231.6B	\$252.5B	\$281.9B	\$295.5B	\$300.7B	\$321.3B	\$346.5B	\$380.5B	\$399.4B	\$430.4B	\$438.2B	\$413.6B	\$439.5B	\$457.5B	\$479.6B	\$493.8B	\$526B
Transportation and Warehousing	\$278.2B	\$288.3B	\$305.6B	\$307.8B	\$305.3B	\$320.9B	\$351.1B	\$375.1B	\$407.6B	\$409.6B	\$422.4B	\$398.8B	\$425.1B	\$446.9B	\$467.4B	\$483.5B	\$505.7B
Accommodation and Food Services	\$238.5B	\$262.9B	\$286.8B	\$292.7B	\$309.4B	\$321.1B	\$343.5B	\$359B	\$379.7B	\$394.5B	\$394.9B	\$383.5B	\$396.2B	\$413.9B	\$439.9B	\$461.4B	\$488B
Other Services, Except Government	\$234.6B	\$248.1B	\$266.2B	\$253.4B	\$273.1B	\$270.7B	\$283.4B	\$296.3B	\$309.2B	\$312.4B	\$311.6B	\$312B	\$316.9B	\$322.4B	\$337.7B	\$344.9B	\$360.8B
Management of Businesses	\$141B	\$150.3B	\$173.2B	\$174.4B	\$176.6B	\$187.5B	\$206.7B	\$219.3B	\$238.5B	\$259.5B	\$261.5B	\$247.1B	\$268.2B	\$281B	\$304.3B	\$322B	\$337.9B
Utilities	\$163.9B	\$180.1B	\$180.2B	\$184B	\$180.1B	\$187.1B	\$202.7B	\$201.4B	\$230B	\$235.1B	\$237.5B	\$250.8B	\$267B	\$272B	\$262.9B	\$270.5B	\$280.8B
Educational Services	\$74.5B	\$80.4B	\$86.1B	\$91.7B	\$98.6B	\$106.5B	\$116.7B	\$121B	\$129.9B	\$138.7B	\$149.3B	\$163B	\$169.3B	\$175.5B	\$183B	\$184.7B	\$192.8B
Arts, Entertainment, and Recreation	\$82.8B	\$90.4B	\$99B	\$96.6B	\$103.8B	\$111.1B	\$118B	\$122.3B	\$130.3B	\$137.6B	\$140.1B	\$138.8B	\$144.4B	\$147.5B	\$157B	\$164.3B	\$172.3B

Table 1: Private Non-Farm Nominal GDP

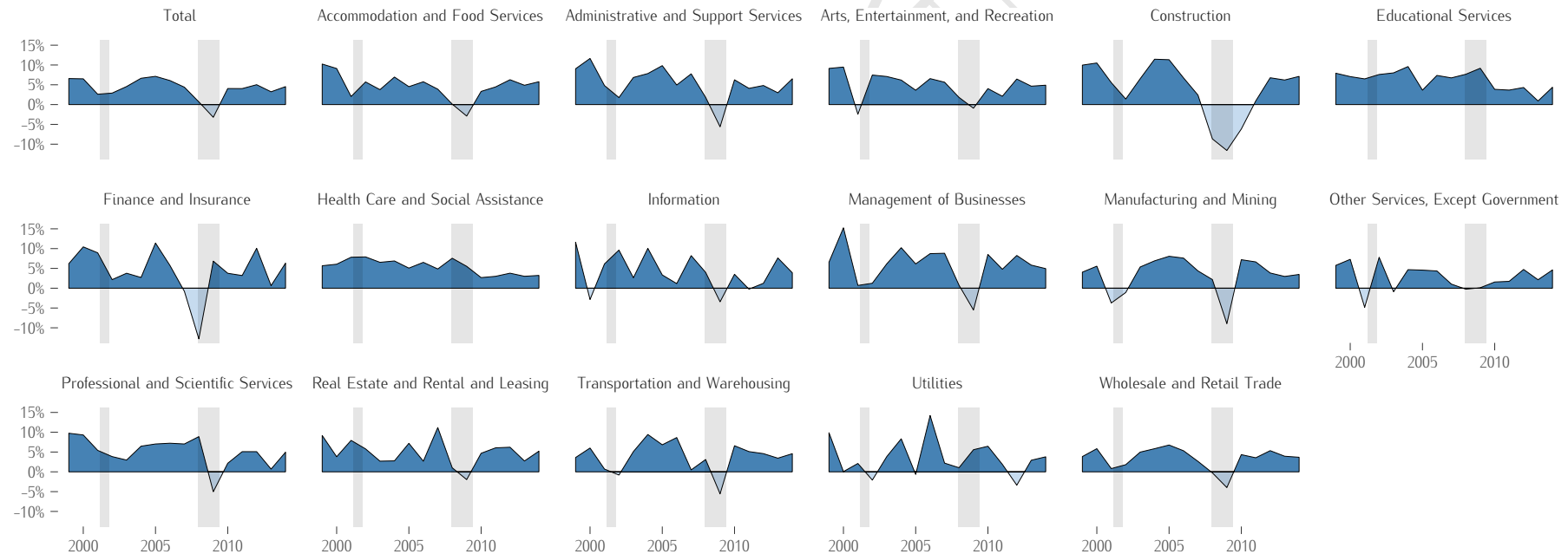


Figure 8: Private Non-Farm Nominal GDP Growth



7.1.2 SGDP

Table 2: SGDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$3.5T	\$3.8T	\$4T	\$4.1T	\$4.1T	\$4.2T	\$4.5T	\$4.7T	\$5T	\$5.2T	\$5.2T	\$5T	\$5.1T	\$5.3T	\$5.6T	\$5.7T	\$5.9T
Real Estate and Rental and Leasing	\$409B	\$444.9B	\$458.5B	\$500.8B	\$518.1B	\$522.5B	\$532.3B	\$550B	\$568.3B	\$667.4B	\$704.4B	\$670.8B	\$695.4B	\$735.5B	\$777.7B	\$807.1B	\$850.3B
Wholesale and Retail Trade	\$642.2B	\$657.2B	\$686.2B	\$685.3B	\$656.4B	\$675.7B	\$700.7B	\$736.1B	\$767.9B	\$782.7B	\$757.2B	\$699B	\$732.3B	\$757.7B	\$790.6B	\$817.2B	\$848.7B
Manufacturing and Mining	\$464.6B	\$484.3B	\$518.2B	\$516.5B	\$447.3B	\$474B	\$515.9B	\$528.8B	\$592.5B	\$605.2B	\$632.1B	\$538.3B	\$595.1B	\$638.6B	\$671.9B	\$670.2B	\$691.9B
Professional and Scientific Services	\$388.6B	\$420.3B	\$420.3B	\$456.6B	\$456.8B	\$461.9B	\$486.7B	\$510B	\$539.1B	\$573.1B	\$618.3B	\$574B	\$574.9B	\$603.2B	\$635.4B	\$627.9B	\$648.7B
Health Care and Social Assistance	\$277.3B	\$298.5B	\$311.6B	\$339B	\$355.8B	\$392.6B	\$415.9B	\$433.3B	\$454.6B	\$469.3B	\$506.8B	\$524.5B	\$534B	\$539.3B	\$543.7B	\$555.3B	\$573.4B
Construction	\$337.3B	\$368.6B	\$400.1B	\$419.6B	\$418.1B	\$446B	\$492.3B	\$539.9B	\$577.1B	\$607.5B	\$554.7B	\$493.2B	\$454.7B	\$454.1B	\$480.3B	\$504.8B	\$540B
Finance and Insurance	\$201.2B	\$222.7B	\$247.9B	\$264.5B	\$302.3B	\$299.6B	\$301.8B	\$325.5B	\$324.1B	\$321.9B	\$229.7B	\$316.2B	\$349.8B	\$359.9B	\$361.1B	\$351B	\$356.4B
Other Services, Except Government	\$197.4B	\$210.7B	\$222.4B	\$209.7B	\$228.2B	\$223.2B	\$235B	\$242.2B	\$251.9B	\$251.4B	\$246.4B	\$249.5B	\$259.2B	\$261.4B	\$275.3B	\$283.7B	\$296.8B
Accommodation and Food Services	\$141.6B	\$153.1B	\$171.7B	\$167.7B	\$171.1B	\$170.8B	\$182.1B	\$184.6B	\$198.3B	\$205.2B	\$201.7B	\$202B	\$207.6B	\$218.8B	\$232.5B	\$243.8B	\$259.1B
Administrative and Support Services	\$104.9B	\$108.8B	\$122.7B	\$124B	\$129.2B	\$139.7B	\$151.9B	\$151.6B	\$174B	\$173.5B	\$170.8B	\$160.9B	\$168.8B	\$173.2B	\$181.7B	\$183.2B	\$195.2B
Transportation and Warehousing	\$112.8B	\$114.9B	\$120.9B	\$128.2B	\$122.7B	\$121.8B	\$133.5B	\$141.3B	\$153.6B	\$148.5B	\$153.2B	\$142.1B	\$146.8B	\$158.7B	\$166B	\$169.4B	\$177.2B
Management of Businesses	\$42.7B	\$46.4B	\$51B	\$56.1B	\$58.3B	\$75.9B	\$82.6B	\$81B	\$84.2B	\$90.4B	\$106.6B	\$104.4B	\$111.3B	\$131.4B	\$152B	\$151.7B	\$159.3B
Arts, Entertainment, and Recreation	\$67.2B	\$72.7B	\$78.1B	\$75B	\$78.5B	\$85.1B	\$89.7B	\$90.2B	\$95.5B	\$100B	\$100.5B	\$100.7B	\$105.1B	\$105.3B	\$110.8B	\$112.9B	\$118.4B
Information	\$97.5B	\$104.2B	\$84.4B	\$73.1B	\$45.4B	\$69.8B	\$73.3B	\$91.5B	\$89.6B	\$86.9B	\$86.6B	\$87.6B	\$95.5B	\$93B	\$99.9B	\$95.2B	\$96.9B
Educational Services	\$33.4B	\$36.2B	\$38.5B	\$41.3B	\$42.9B	\$47.3B	\$51B	\$51.8B	\$55.5B	\$58.8B	\$62.9B	\$67.6B	\$68.4B	\$69.5B	\$72.4B	\$73.2B	\$75.3B
Utilities	\$17.8B	\$19.9B	\$22.4B	\$24.8B	\$21.6B	\$23.5B	\$25.9B	\$26.5B	\$28.2B	\$31.3B	\$30.4B	\$29.2B	\$32.7B	\$30.9B	\$31.5B	\$38.5B	\$39.6B



Figure 9: SGDP Growth

7.1.3 LARGE BUSINESS GDP

Table 3: Large Business GDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$3.7T	\$3.9T	\$4.2T	\$4.3T	\$4.6T	\$4.8T	\$5.1T	\$5.6T	\$6T	\$6.2T	\$6.3T	\$6.1T	\$6.4T	\$6.7T	\$7T	\$7.3T	\$7.7T
Manufacturing and Mining	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.3T	\$1.4T	\$1.5T	\$1.6T	\$1.6T	\$1.5T	\$1.6T	\$1.7T	\$1.7T	\$1.8T	\$1.9T
Wholesale and Retail Trade	\$559.1B	\$590.4B	\$634.4B	\$646.1B	\$699.1B	\$747.2B	\$805.4B	\$872B	\$925.8B	\$955.7B	\$976.7B	\$966B	\$1T	\$1T	\$1.1T	\$1.2T	\$1.2T
Finance and Insurance	\$438.6B	\$456.8B	\$502.5B	\$553B	\$532.9B	\$567.2B	\$588.5B	\$666.4B	\$724.7B	\$718.7B	\$677.6B	\$653B	\$656B	\$678.1B	\$781.6B	\$799.2B	\$866.5B
Information	\$338B	\$382B	\$387.8B	\$428.1B	\$504B	\$494.1B	\$547.5B	\$550B	\$559.4B	\$615.5B	\$643.9B	\$617.8B	\$634.7B	\$635.5B	\$637.6B	\$698.6B	\$727.8B
Health Care and Social Assistance	\$253.9B	\$262.9B	\$283.8B	\$303B	\$336.9B	\$345.5B	\$373B	\$395.6B	\$428.4B	\$456.7B	\$489.2B	\$526.5B	\$545.2B	\$572.2B	\$610.1B	\$633.3B	\$653.4B
Professional and Scientific Services	\$158.3B	\$179.9B	\$235.7B	\$234.9B	\$261.3B	\$277.6B	\$300.7B	\$332.8B	\$364.6B	\$394.2B	\$435B	\$426.3B	\$447.1B	\$470.9B	\$493.4B	\$508.7B	\$544.2B
Administrative and Support Services	\$126.7B	\$143.7B	\$159.3B	\$171.4B	\$171.5B	\$181.6B	\$194.6B	\$228.9B	\$225.4B	\$256.9B	\$267.5B	\$252.7B	\$270.7B	\$284.3B	\$297.9B	\$310.6B	\$330.8B
Transportation and Warehousing	\$165.4B	\$173.4B	\$184.7B	\$179.5B	\$182.6B	\$199B	\$217.7B	\$233.8B	\$254B	\$261.1B	\$269.1B	\$256.7B	\$278.4B	\$288.1B	\$301.4B	\$314.1B	\$328.5B
Utilities	\$146.1B	\$160.1B	\$157.8B	\$159.2B	\$158.5B	\$163.6B	\$176.8B	\$174.8B	\$201.8B	\$203.8B	\$207.1B	\$221.6B	\$234.3B	\$241.1B	\$231.3B	\$232.1B	\$241.2B
Accommodation and Food Services	\$96.9B	\$109.8B	\$115.2B	\$125B	\$138.3B	\$150.3B	\$161.4B	\$174.4B	\$181.4B	\$189.3B	\$193.2B	\$181.5B	\$188.7B	\$195.1B	\$207.4B	\$217.6B	\$228.9B
Real Estate and Rental and Leasing	\$80.2B	\$89.1B	\$95.9B	\$97.7B	\$115B	\$127.7B	\$136B	\$166.4B	\$167.4B	\$150.6B	\$122B	\$139.3B	\$152.7B	\$164B	\$177.7B	\$174.5B	\$182.5B
Management of Businesses	\$98.3B	\$103.9B	\$122.2B	\$118.3B	\$118.3B	\$111.6B	\$124B	\$138.4B	\$154.3B	\$169.1B	\$154.9B	\$142.7B	\$156.9B	\$149.6B	\$152.2B	\$170.4B	\$178.6B
Construction	\$43.2B	\$49.8B	\$62.2B	\$68.4B	\$76.8B	\$81.1B	\$95.2B	\$114.2B	\$121.1B	\$107.4B	\$98.3B	\$84B	\$86.9B	\$92.6B	\$103.4B	\$115.1B	\$124B
Educational Services	\$41.1B	\$44.2B	\$47.6B	\$50.3B	\$55.7B	\$59.2B	\$65.7B	\$69.2B	\$74.4B	\$79.8B	\$86.3B	\$95.4B	\$100.8B	\$105.9B	\$110.6B	\$111.5B	\$117.4B
Other Services, Except Government	\$37.2B	\$37.4B	\$43.8B	\$43.6B	\$45B	\$47.5B	\$48.4B	\$54.1B	\$57.3B	\$61B	\$65.3B	\$62.5B	\$57.8B	\$61B	\$62.4B	\$61.2B	\$64B
Arts, Entertainment, and Recreation	\$15.6B	\$17.7B	\$20.9B	\$21.6B	\$25.2B	\$26B	\$28.3B	\$32.1B	\$34.8B	\$37.7B	\$39.6B	\$38.1B	\$39.3B	\$42.2B	\$46.2B	\$51.4B	\$53.9B



Figure 10: Large Business GDP Growth

## 7.1.4 SMALL BUSINESS SHARES OF PRIVATE NON-FARM NOMINAL GDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	49.2%	49.1%	48.5%	48.8%	47.1%	47.0%	46.5%	45.5%	45.4%	45.4%	45.0%	44.7%	44.4%	44.3%	44.2%	43.6%	43.5%
Real Estate and Rental and Leasing	83.6%	83.3%	82.7%	83.7%	81.8%	80.4%	79.7%	76.8%	77.2%	81.6%	85.2%	82.8%	82.0%	81.8%	81.4%	82.2%	82.3%
Other Services, Except Government	84.1%	84.9%	83.5%	82.8%	83.5%	82.5%	82.9%	81.8%	81.5%	80.5%	79.1%	80.0%	81.8%	81.1%	81.5%	82.2%	82.3%
Construction	88.7%	88.1%	86.5%	86.0%	84.5%	84.6%	83.8%	82.5%	82.6%	85.0%	84.9%	85.4%	83.9%	83.1%	82.3%	81.4%	81.3%
Arts, Entertainment, and Recreation	81.2%	80.5%	78.9%	77.6%	75.7%	76.6%	76.0%	73.7%	73.3%	72.6%	71.7%	72.5%	72.8%	71.4%	70.5%	68.7%	68.7%
Professional and Scientific Services	71.1%	70.0%	64.1%	66.0%	63.6%	62.5%	61.8%	60.5%	59.7%	59.3%	58.7%	57.4%	56.3%	56.2%	56.3%	55.2%	54.4%
Accommodation and Food Services	59.4%	58.3%	59.8%	57.3%	55.3%	53.2%	53.0%	51.4%	52.2%	52.0%	51.1%	52.7%	52.4%	52.9%	52.8%	52.8%	53.1%
Management of Businesses	30.3%	30.8%	29.5%	32.2%	33.0%	40.5%	40.0%	36.9%	35.3%	34.8%	40.8%	42.3%	41.5%	46.8%	50.0%	47.1%	47.2%
Health Care and Social Assistance	52.2%	53.2%	52.3%	52.8%	51.4%	53.2%	52.7%	52.3%	51.5%	50.7%	50.9%	49.9%	49.5%	48.5%	47.1%	46.7%	46.7%
Wholesale and Retail Trade	53.5%	52.7%	52.0%	51.5%	48.4%	47.5%	46.5%	45.8%	45.3%	45.0%	43.7%	42.0%	42.2%	42.1%	41.7%	41.5%	41.6%
Educational Services	44.8%	45.0%	44.7%	45.1%	43.5%	44.4%	43.7%	42.8%	42.7%	42.4%	42.2%	41.5%	40.4%	39.6%	39.6%	39.7%	39.1%
Administrative and Support Services	45.3%	43.1%	43.5%	42.0%	43.0%	43.5%	43.8%	39.8%	43.6%	40.3%	39.0%	38.9%	38.4%	37.9%	37.9%	37.1%	37.1%
Transportation and Warehousing	40.6%	39.8%	39.6%	41.7%	40.2%	38.0%	38.0%	37.7%	37.7%	36.3%	36.3%	35.6%	34.5%	35.5%	35.5%	35.0%	35.0%
Finance and Insurance	31.4%	32.8%	33.0%	32.4%	36.2%	34.6%	33.9%	32.8%	30.9%	30.9%	25.3%	32.6%	34.8%	34.7%	31.6%	30.5%	29.1%
Manufacturing and Mining	30.6%	30.7%	31.1%	32.2%	28.2%	28.4%	28.9%	27.4%	28.5%	27.9%	28.5%	26.7%	27.5%	27.7%	28.1%	27.2%	27.1%
Utilities	10.8%	11.1%	12.4%	13.5%	12.0%	12.6%	12.8%	13.2%	12.3%	13.3%	12.8%	11.6%	12.2%	11.4%	12.0%	14.2%	14.1%
Information	22.4%	21.4%	17.9%	14.6%	8.3%	12.4%	11.8%	14.3%	13.8%	12.4%	11.8%	12.4%	13.1%	12.8%	13.5%	12.0%	11.7%

Table 4: Small Business Shares of GDP



Figure 11: Small Business Shares of Private Non-Farm Nominal GDP

7.2 REAL GDP

7.2.1 OVERALL REAL GDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$9.9T	\$10.4T	\$10.8T	\$10.9T	\$11T	\$11.3T	\$11.7T	\$12.2T	\$12.5T	\$12.7T	\$12.6T	\$12.1T	\$12.4T	\$12.7T	\$13.1T	\$13.3T	\$13.6T
Manufacturing and Mining	\$2.1T	\$2.1T	\$2.2T	\$2.1T	\$2T	\$2.1T	\$2.2T	\$2.3T	\$2.4T	\$2.4T	\$2.4T	\$2.2T	\$2.3T	\$2.4T	\$2.5T	\$2.5T	\$2.6T
Wholesale and Retail Trade	\$1.7T	\$1.7T	\$1.8T	\$1.7T	\$1.7T	\$1.8T	\$1.8T	\$1.9T	\$1.9T	\$1.9T	\$1.9T	\$1.8T	\$1.9T	\$1.9T	\$2T	\$2T	\$2T
Health Care and Social Assistance	\$733.1B	\$763B	\$791.3B	\$834.2B	\$886.5B	\$926B	\$963.3B	\$980.6B	\$1T	\$1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T	\$1.2T	\$1.2T	\$1.2T
Finance and Insurance	\$883B	\$923.6B	\$997.3B	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T	\$1.2T	\$994.8B	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T	\$1.2T
Professional and Scientific Services	\$754.7B	\$815.8B	\$871.9B	\$898.6B	\$919.1B	\$927.9B	\$961.5B	\$997.1B	\$1T	\$1.1T	\$1.2T	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T	\$1.2T
Real Estate and Rental and Leasing	\$675.1B	\$725.9B	\$736.9B	\$777.7B	\$810.3B	\$815.9B	\$816.1B	\$847.6B	\$844.4B	\$914.6B	\$906.2B	\$881.7B	\$911.9B	\$947.5B	\$988.2B	\$999.2B	\$1T
Information	\$601B	\$660.8B	\$627.6B	\$651.3B	\$703.2B	\$707.6B	\$758.1B	\$759B	\$744.9B	\$785.3B	\$801B	\$767.6B	\$785.1B	\$767.3B	\$762.8B	\$808B	\$824.7B
Construction	\$525B	\$568.7B	\$614.4B	\$634.1B	\$633.3B	\$661.4B	\$717.5B	\$773.9B	\$801.4B	\$799.4B	\$716B	\$628.3B	\$582.3B	\$575.8B	\$603.7B	\$631B	\$664B
Administrative and Support Services	\$319.6B	\$343.2B	\$374.7B	\$383.9B	\$384.8B	\$403.1B	\$423.1B	\$450.2B	\$458.4B	\$481.2B	\$480.5B	\$450.2B	\$472.5B	\$481.9B	\$496B	\$502.7B	\$526B
Transportation and Warehousing	\$384B	\$391.8B	\$406.2B	\$399.9B	\$390.6B	\$402.6B	\$428.8B	\$443.8B	\$467.8B	\$458B	\$463.1B	\$434.1B	\$457.1B	\$470.7B	\$483.5B	\$492.2B	\$505.7B
Accommodation and Food Services	\$329.1B	\$357.3B	\$381.2B	\$380.3B	\$396B	\$402.9B	\$419.4B	\$424.7B	\$435.8B	\$441B	\$433.1B	\$417.3B	\$426B	\$436B	\$455B	\$469.6B	\$488B
Other Services, Except Government	\$323.8B	\$337.3B	\$353.8B	\$329.2B	\$349.6B	\$339.7B	\$346B	\$350.6B	\$354.9B	\$349.3B	\$341.7B	\$339.6B	\$340.7B	\$339.6B	\$349.3B	\$351.1B	\$360.8B
Management of Businesses	\$194.6B	\$204.3B	\$230.2B	\$226.6B	\$226B	\$235.2B	\$252.4B	\$259.5B	\$273.7B	\$290.2B	\$286.8B	\$269B	\$288.4B	\$296.1B	\$314.7B	\$327.8B	\$337.9B
Utilities	\$226.2B	\$244.7B	\$239.4B	\$239.1B	\$230.5B	\$234.7B	\$247.5B	\$238.2B	\$264B	\$262.8B	\$260.4B	\$272.9B	\$287.1B	\$286.6B	\$271.9B	\$275.4B	\$280.8B
Educational Services	\$102.8B	\$109.3B	\$114.4B	\$119.1B	\$126.2B	\$133.7B	\$142.6B	\$143.2B	\$149.1B	\$155B	\$163.7B	\$177.4B	\$182B	\$184.8B	\$189.3B	\$188B	\$192.8B
Arts, Entertainment, and Recreation	\$114.3B	\$122.9B	\$131.5B	\$125.5B	\$132.8B	\$139.4B	\$144.1B	\$144.6B	\$149.5B	\$153.9B	\$153.7B	\$151.1B	\$155.3B	\$155.4B	\$162.4B	\$167.2B	\$172.3B

Table 5: Real Private Non-Farm GDP

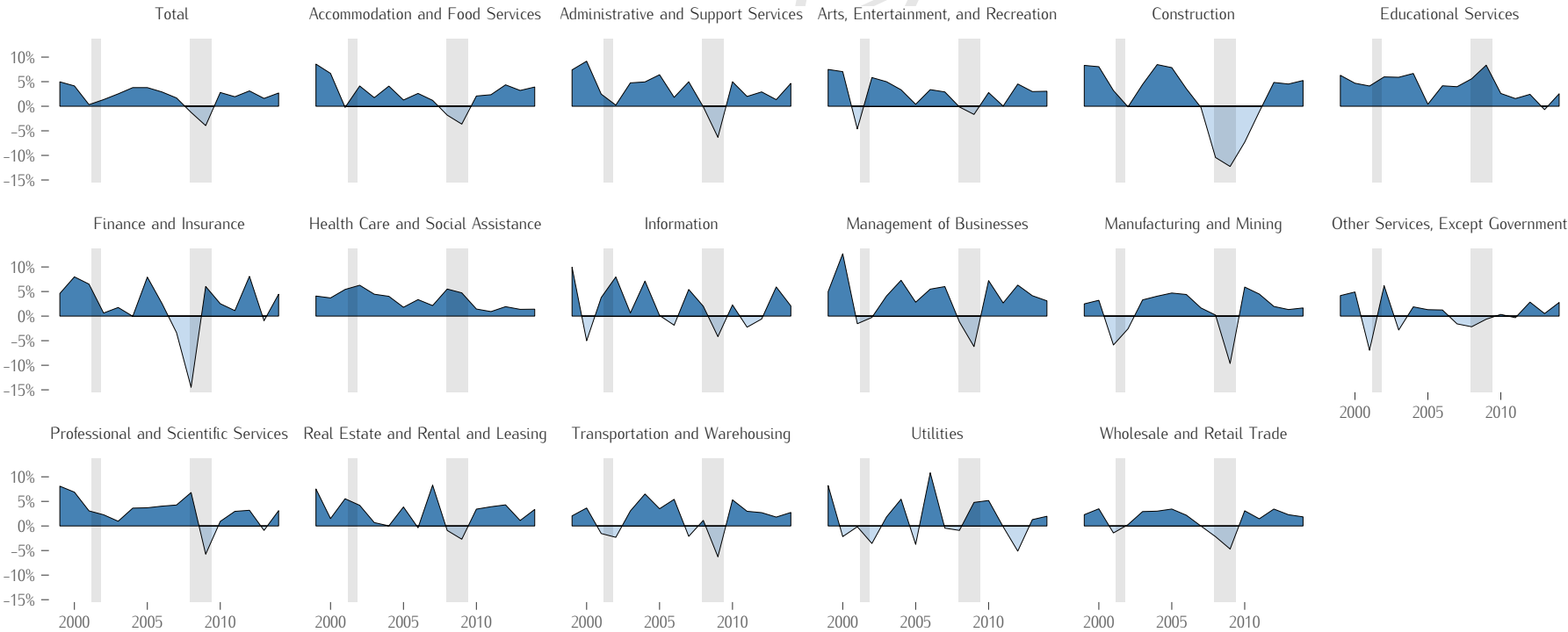


Figure 12: Real GDP Growth

7.2.2 REAL SGDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$4.9T	\$5.1T	\$5.3T	\$5.3T	\$5.2T	\$5.3T	\$5.5T	\$5.5T	\$5.7T	\$5.8T	\$5.7T	\$5.4T	\$5.5T	\$5.6T	\$5.8T	\$5.8T	\$5.9T
Real Estate and Rental and Leasing	\$564.4B	\$604.8B	\$609.4B	\$650.8B	\$663.1B	\$655.6B	\$650B	\$650.7B	\$652.3B	\$746.1B	\$772.4B	\$730.1B	\$747.7B	\$774.8B	\$804.4B	\$821.6B	\$850.3B
Wholesale and Retail Trade	\$886.3B	\$893.3B	\$912B	\$890.4B	\$840B	\$847.9B	\$855.7B	\$870.9B	\$881.4B	\$875.1B	\$830.3B	\$760.7B	\$787.4B	\$798.2B	\$817.8B	\$831.8B	\$848.7B
Manufacturing and Mining	\$641.2B	\$658.2B	\$688.7B	\$671.2B	\$572.5B	\$594.8B	\$630B	\$625.7B	\$680.1B	\$676.6B	\$693.1B	\$585.8B	\$639.8B	\$672.7B	\$695B	\$682.2B	\$691.9B
Professional and Scientific Services	\$536.2B	\$571.3B	\$558.6B	\$593.4B	\$584.6B	\$579.5B	\$594.3B	\$603.4B	\$618.8B	\$640.8B	\$678B	\$624.7B	\$618.2B	\$635.4B	\$657.2B	\$639.2B	\$648.7B
Health Care and Social Assistance	\$382.7B	\$405.7B	\$414.1B	\$440.5B	\$455.4B	\$492.6B	\$507.8B	\$512.6B	\$521.8B	\$524.7B	\$555.8B	\$570.8B	\$574.1B	\$568.1B	\$562.3B	\$565.2B	\$573.4B
Construction	\$465.5B	\$501B	\$531.7B	\$545.2B	\$535B	\$559.6B	\$601.2B	\$638.8B	\$662.4B	\$679.3B	\$608.2B	\$536.8B	\$488.8B	\$478.3B	\$496.8B	\$513.8B	\$540B
Finance and Insurance	\$277.7B	\$302.7B	\$329.4B	\$343.7B	\$386.8B	\$375.9B	\$368.6B	\$385B	\$372B	\$359.9B	\$251.8B	\$344.2B	\$376.1B	\$379.1B	\$373.5B	\$357.3B	\$356.4B
Other Services, Except Government	\$272.4B	\$286.4B	\$295.6B	\$272.5B	\$292B	\$280.1B	\$286.9B	\$286.6B	\$289.1B	\$281.1B	\$270.1B	\$271.6B	\$278.6B	\$275.3B	\$284.8B	\$288.7B	\$296.8B
Accommodation and Food Services	\$195.4B	\$208.2B	\$228.2B	\$218B	\$219B	\$214.3B	\$222.3B	\$218.4B	\$227.7B	\$229.4B	\$221.2B	\$219.8B	\$223.2B	\$230.5B	\$240.5B	\$248.1B	\$259.1B
Administrative and Support Services	\$144.8B	\$147.9B	\$163B	\$161.2B	\$165.4B	\$175.3B	\$185.5B	\$179.4B	\$199.7B	\$194B	\$187.3B	\$175.1B	\$181.5B	\$182.4B	\$187.9B	\$186.5B	\$195.2B
Transportation and Warehousing	\$155.7B	\$156.1B	\$160.7B	\$166.6B	\$157B	\$152.9B	\$163B	\$167.2B	\$176.3B	\$166B	\$168B	\$154.7B	\$157.8B	\$167.2B	\$171.7B	\$172.4B	\$177.2B
Management of Businesses	\$58.9B	\$63B	\$67.8B	\$73B	\$74.6B	\$95.3B	\$100.9B	\$95.8B	\$96.7B	\$101.1B	\$116.9B	\$113.6B	\$119.6B	\$138.4B	\$157.3B	\$154.4B	\$159.3B
Arts, Entertainment, and Recreation	\$92.8B	\$98.9B	\$103.8B	\$97.4B	\$100.5B	\$106.8B	\$109.5B	\$106.7B	\$109.6B	\$111.8B	\$110.2B	\$109.6B	\$113B	\$110.9B	\$114.6B	\$115B	\$118.4B
Information	\$134.5B	\$141.6B	\$112.1B	\$95B	\$58.1B	\$87.6B	\$89.5B	\$108.3B	\$102.9B	\$97.2B	\$94.9B	\$95.3B	\$102.6B	\$97.9B	\$103.3B	\$96.9B	\$96.9B
Educational Services	\$46.1B	\$49.1B	\$51.2B	\$53.7B	\$54.9B	\$59.3B	\$62.3B	\$61.3B	\$63.7B	\$65.8B	\$69B	\$73.6B	\$73.6B	\$73.2B	\$74.9B	\$74.6B	\$75.3B
Utilities	\$24.5B	\$27.1B	\$29.8B	\$32.2B	\$27.7B	\$29.5B	\$31.6B	\$31.4B	\$32.4B	\$35B	\$33.4B	\$31.8B	\$35.1B	\$32.6B	\$32.6B	\$39.2B	\$39.6B

Table 6: Real Private Non-Farm SGDP

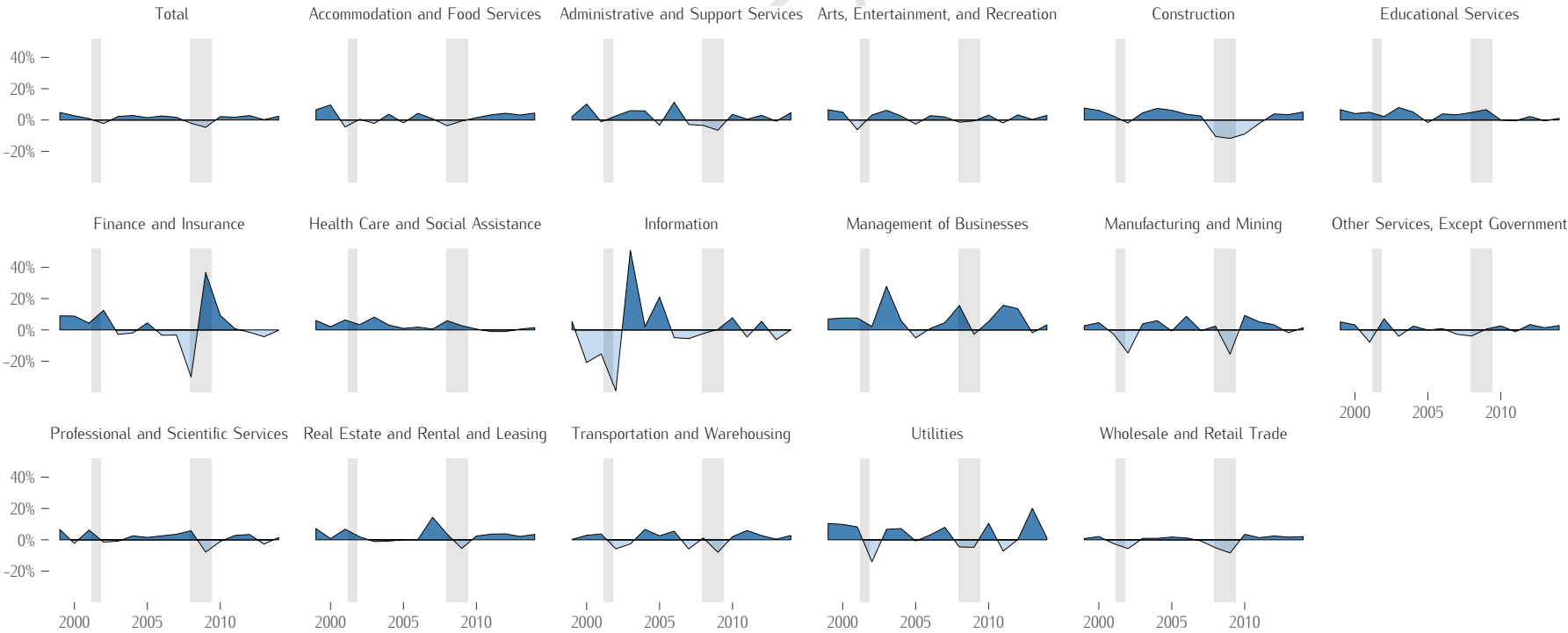


Figure 13: Real SGDP Growth

## 7.2.3 REAL LARGE BUSINESS GDP

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$5T	\$5.3T	\$5.6T	\$5.6T	\$5.8T	\$6T	\$6.3T	\$6.6T	\$6.8T	\$7T	\$6.9T	\$6.7T	\$6.9T	\$7T	\$7.3T	\$7.5T	\$7.7T
Manufacturing and Mining	\$1.5T	\$1.5T	\$1.5T	\$1.4T	\$1.5T	\$1.5T	\$1.6T	\$1.7T	\$1.7T	\$1.7T	\$1.7T	\$1.6T	\$1.7T	\$1.8T	\$1.8T	\$1.8T	\$1.9T
Wholesale and Retail Trade	\$771.6B	\$802.6B	\$843.1B	\$839.6B	\$894.7B	\$937.6B	\$983.5B	\$1T	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.1T	\$1.2T	\$1.2T
Finance and Insurance	\$605.3B	\$620.9B	\$667.9B	\$718.5B	\$682B	\$711.7B	\$718.6B	\$788.4B	\$831.9B	\$803.5B	\$743B	\$710.7B	\$705.3B	\$714.4B	\$808.4B	\$813.5B	\$866.5B
Information	\$466.5B	\$519.2B	\$515.4B	\$556.3B	\$645B	\$620B	\$668.6B	\$650.7B	\$642.1B	\$688.1B	\$706.1B	\$672.3B	\$682.4B	\$669.4B	\$659.5B	\$711.2B	\$727.8B
Health Care and Social Assistance	\$350.4B	\$357.3B	\$377.2B	\$393.7B	\$431.2B	\$433.5B	\$455.4B	\$468B	\$491.7B	\$510.6B	\$536.4B	\$573B	\$586.2B	\$602.8B	\$631.1B	\$644.6B	\$653.4B
Professional and Scientific Services	\$218.4B	\$244.5B	\$313.3B	\$305.2B	\$334.4B	\$348.3B	\$367.2B	\$393.7B	\$418.5B	\$440.7B	\$477B	\$464B	\$480.7B	\$496B	\$510.3B	\$517.8B	\$544.2B
Administrative and Support Services	\$174.8B	\$195.4B	\$211.7B	\$222.8B	\$219.4B	\$227.8B	\$237.6B	\$270.8B	\$258.7B	\$287.2B	\$293.3B	\$275.1B	\$291B	\$299.5B	\$308.1B	\$316.2B	\$330.8B
Transportation and Warehousing	\$228.2B	\$235.7B	\$245.5B	\$233.3B	\$233.6B	\$249.7B	\$265.8B	\$276.6B	\$291.5B	\$291.9B	\$295.1B	\$279.4B	\$299.3B	\$303.5B	\$311.7B	\$319.7B	\$328.5B
Utilities	\$201.6B	\$217.7B	\$209.7B	\$206.8B	\$202.9B	\$205.2B	\$215.9B	\$206.8B	\$231.6B	\$227.9B	\$227.1B	\$241.2B	\$251.9B	\$254B	\$239.3B	\$236.2B	\$241.2B
Accommodation and Food Services	\$133.7B	\$149.2B	\$153.1B	\$162.4B	\$177B	\$188.6B	\$197.1B	\$206.4B	\$208.2B	\$211.6B	\$211.9B	\$197.5B	\$202.8B	\$205.5B	\$214.5B	\$221.5B	\$228.9B
Real Estate and Rental and Leasing	\$110.6B	\$121.2B	\$127.5B	\$126.9B	\$147.2B	\$160.2B	\$166.1B	\$196.9B	\$192.1B	\$168.4B	\$133.7B	\$151.6B	\$164.2B	\$172.8B	\$183.8B	\$177.6B	\$182.5B
Management of Businesses	\$135.7B	\$141.3B	\$162.4B	\$153.7B	\$151.5B	\$140B	\$151.5B	\$163.7B	\$177.1B	\$189.1B	\$169.9B	\$155.3B	\$168.7B	\$157.6B	\$157.5B	\$173.4B	\$178.6B
Construction	\$59.6B	\$67.7B	\$82.7B	\$88.9B	\$98.2B	\$101.8B	\$116.3B	\$135.1B	\$139.1B	\$120.1B	\$107.8B	\$91.5B	\$93.5B	\$97.5B	\$106.9B	\$117.1B	\$124B
Educational Services	\$56.7B	\$60.1B	\$63.2B	\$65.4B	\$71.3B	\$74.3B	\$80.3B	\$81.9B	\$85.4B	\$89.2B	\$94.7B	\$103.8B	\$108.4B	\$111.6B	\$114.4B	\$113.5B	\$117.4B
Other Services, Except Government	\$51.4B	\$50.9B	\$58.2B	\$56.7B	\$57.6B	\$59.5B	\$59.1B	\$64B	\$65.8B	\$68.2B	\$71.6B	\$68B	\$62.1B	\$64.3B	\$64.5B	\$62.3B	\$64B
Arts, Entertainment, and Recreation	\$21.5B	\$24B	\$27.8B	\$28.1B	\$32.3B	\$32.7B	\$34.5B	\$38B	\$39.9B	\$42.1B	\$43.4B	\$41.5B	\$42.3B	\$44.5B	\$47.8B	\$52.3B	\$53.9B

Table 7: Real Private Non-Farm Large Business GDP

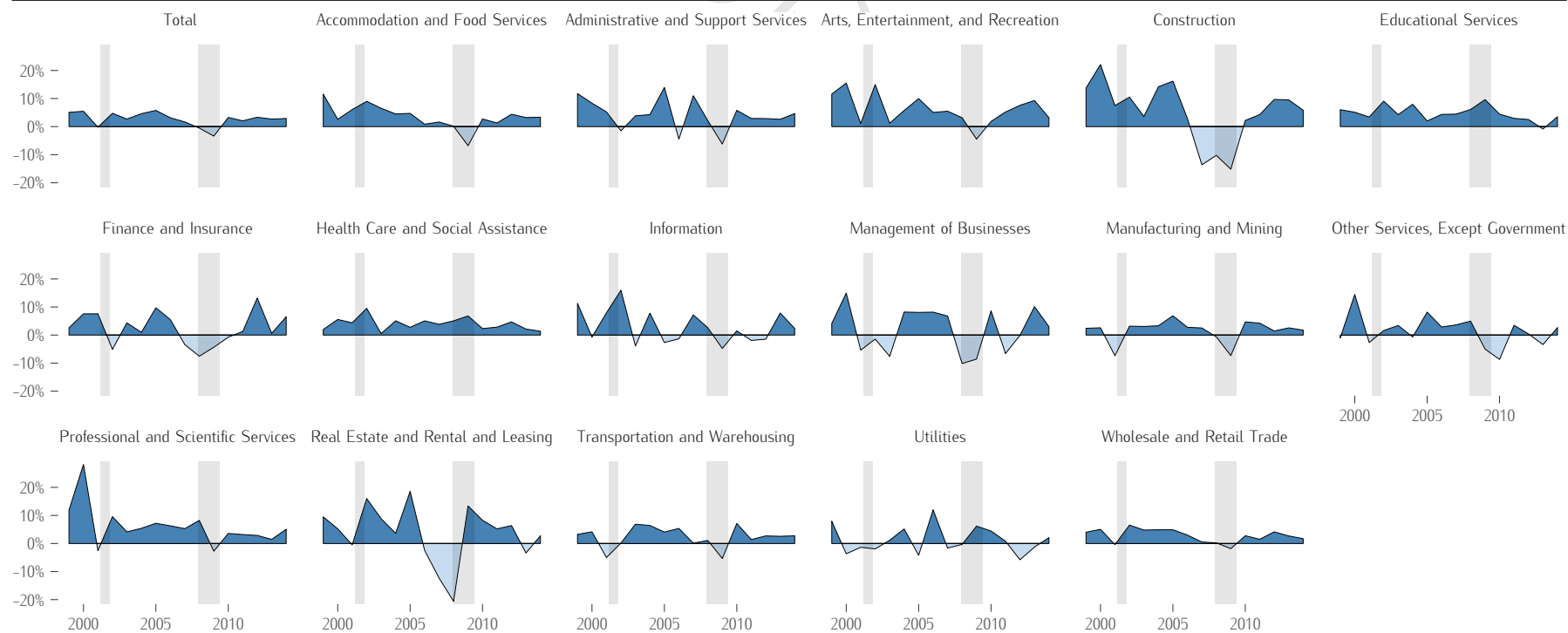


Figure 14: Real Large Business GDP Growth

## 7.3 PRODUCTIVITY

### 7.3.1 REAL GDP PER EMPLOYEE

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$91.9K	\$94.2K	\$95.2K	\$94.7K	\$98.2K	\$99.8K	\$102.1K	\$104.8K	\$104.6K	\$105.8K	\$104.2K	\$105.7K	\$111.1K	\$111.8K	\$112.8K	\$112.3K	\$112.7K
Real Estate and Rental and Leasing	\$372.4K	\$387.4K	\$379.4K	\$386.2K	\$401.7K	\$399K	\$391.2K	\$395.3K	\$380.9K	\$411.2K	\$412.6K	\$432.9K	\$468.5K	\$494.1K	\$509.2K	\$506.6K	\$510.9K
Utilities	\$331.5K	\$366.9K	\$365.4K	\$365.3K	\$355.6K	\$347.3K	\$389.9K	\$376.3K	\$429.7K	\$422K	\$407.3K	\$425.4K	\$449.9K	\$447.9K	\$424.1K	\$431.3K	\$440.2K
Information	\$191.3K	\$204.3K	\$177K	\$173.5K	\$198.9K	\$196.6K	\$218.3K	\$223.1K	\$219.3K	\$231K	\$233.2K	\$233.5K	\$251.3K	\$245.8K	\$243.2K	\$247.4K	\$245.1K
Manufacturing and Mining	\$120K	\$125.3K	\$130.8K	\$126.8K	\$136.6K	\$143.8K	\$152.7K	\$161.3K	\$168.1K	\$172.9K	\$177K	\$179.4K	\$203.1K	\$208.8K	\$207.8K	\$209K	\$209.4K
Finance and Insurance	\$153K	\$154.8K	\$167.2K	\$170K	\$166.6K	\$168.3K	\$167.7K	\$182.4K	\$181.1K	\$177.6K	\$152.8K	\$170.9K	\$182.4K	\$185.8K	\$197.7K	\$193.1K	\$201.2K
Professional and Scientific Services	\$124.7K	\$126.8K	\$127.9K	\$125.6K	\$130.4K	\$126.4K	\$127K	\$129.7K	\$128.8K	\$132.2K	\$143.8K	\$138.9K	\$140.5K	\$142.7K	\$145.6K	\$139.8K	\$138.4K
Construction	\$90.5K	\$91.7K	\$93.5K	\$97.7K	\$100.4K	\$103.6K	\$107.9K	\$114.1K	\$109.2K	\$110K	\$101.7K	\$105.3K	\$108.1K	\$110.9K	\$114.7K	\$115.3K	\$116.4K
Transportation and Warehousing	\$110.9K	\$108K	\$107.2K	\$106.6K	\$109.1K	\$99K	\$104.6K	\$106.5K	\$108.6K	\$104.2K	\$104.3K	\$104.3K	\$113.9K	\$114.6K	\$114.2K	\$114.8K	\$114.8K
Management of Businesses	\$72K	\$73.3K	\$80.1K	\$78.7K	\$77.6K	\$81.7K	\$89.3K	\$90.8K	\$93.9K	\$93K	\$99.3K	\$94.3K	\$101.8K	\$101.3K	\$103.6K	\$105.8K	\$104.4K
Wholesale and Retail Trade	\$82.4K	\$82.9K	\$83.8K	\$82.3K	\$83.9K	\$86.1K	\$86.5K	\$89.3K	\$89.2K	\$89.5K	\$87.3K	\$87.8K	\$92.9K	\$93.2K	\$95.2K	\$95.8K	\$95.7K
Arts, Entertainment, and Recreation	\$72.2K	\$74.9K	\$75.5K	\$70.5K	\$73.7K	\$76.1K	\$76.3K	\$74.7K	\$75.8K	\$76.6K	\$74.3K	\$75.2K	\$77.5K	\$77.6K	\$78.9K	\$79.2K	\$79.4K
Other Services, Except Government	\$64.3K	\$65.5K	\$66.8K	\$61.3K	\$64.5K	\$63.3K	\$63.9K	\$65K	\$65K	\$63.3K	\$62.7K	\$64.5K	\$65.5K	\$65.5K	\$66.4K	\$66.5K	\$67.5K
Health Care and Social Assistance	\$53.3K	\$55K	\$56.1K	\$57.4K	\$59.5K	\$59.9K	\$60.9K	\$61.2K	\$61.6K	\$61.6K	\$63.4K	\$65.2K	\$65.2K	\$64.8K	\$64.9K	\$65K	\$65.1K
Educational Services	\$44.2K	\$44.9K	\$45.2K	\$45.6K	\$46.7K	\$48.1K	\$49.3K	\$49.7K	\$50K	\$51K	\$52.1K	\$55.4K	\$55.6K	\$54.6K	\$54.4K	\$53.5K	\$54.1K
Administrative and Support Services	\$41.1K	\$41K	\$41K	\$42.4K	\$46.4K	\$47.4K	\$48.6K	\$48.5K	\$45.8K	\$48.2K	\$47K	\$49.7K	\$52.6K	\$51.3K	\$50.3K	\$49.4K	\$49.7K
Accommodation and Food Services	\$34.8K	\$37.1K	\$38.6K	\$38.1K	\$39.4K	\$38.6K	\$39K	\$38.5K	\$38.3K	\$38.1K	\$36.3K	\$36.5K	\$37.7K	\$37.7K	\$38K	\$37.9K	\$38.1K

Table 8: Real GDP per Employee

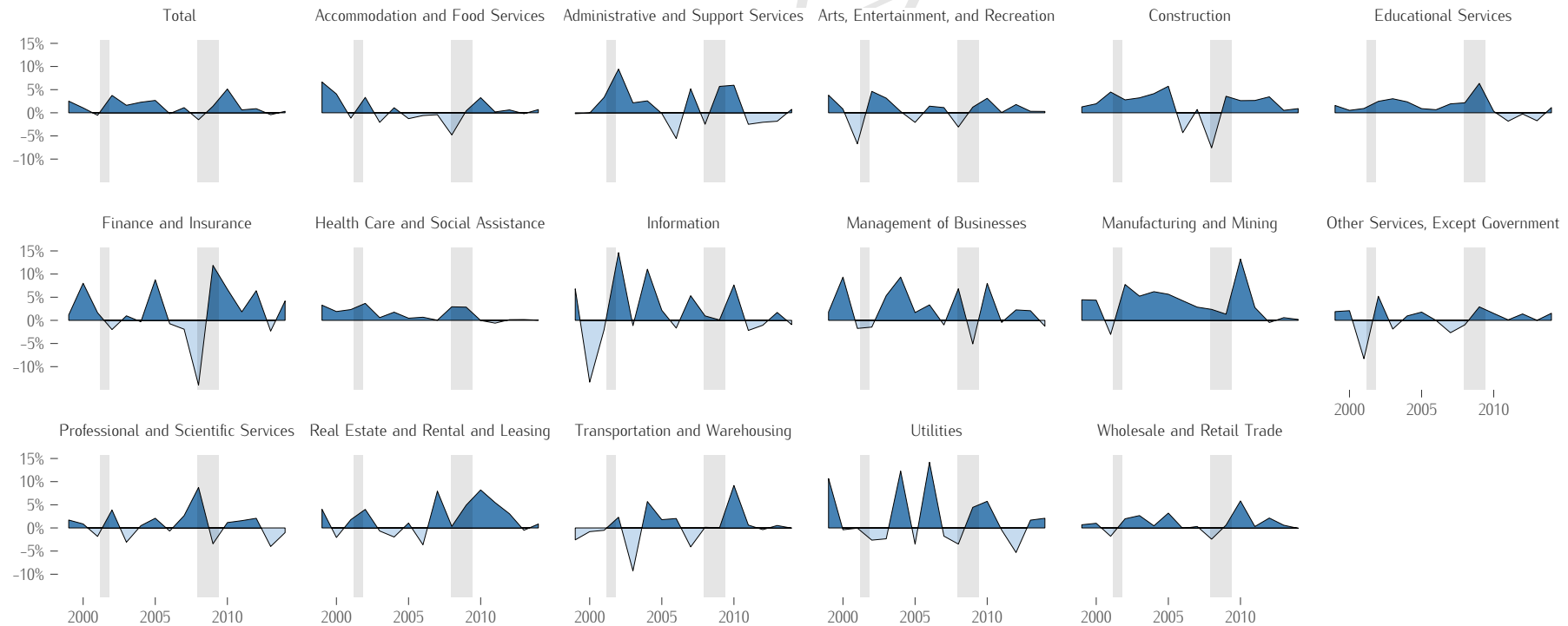


Figure 15: Real GDP per Employee Growth

7.3.2 REAL SGDP PER EMPLOYEE

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$88.9K	\$92.1K	\$92.3K	\$92.7K	\$92K	\$92.4K	\$93.2K	\$94.7K	\$94.4K	\$96.8K	\$95.1K	\$96.1K	\$100.6K	\$102.3K	\$103.3K	\$102.1K	\$102.6K
Real Estate and Rental and Leasing	\$431.5K	\$456.9K	\$448.8K	\$471.3K	\$478.1K	\$463K	\$450.7K	\$444.7K	\$428.8K	\$496.3K	\$534.5K	\$536K	\$559K	\$590K	\$598.4K	\$603.5K	\$611.6K
Management of Businesses	\$193.6K	\$200.9K	\$220.4K	\$224.1K	\$197.5K	\$273.6K	\$294.6K	\$283.4K	\$274.8K	\$263.6K	\$316.9K	\$313.7K	\$323.3K	\$370.2K	\$407K	\$410K	\$411.7K
Utilities	\$237K	\$264.7K	\$284.1K	\$303.9K	\$250.2K	\$270.6K	\$294.3K	\$287.7K	\$296.7K	\$316.8K	\$307.4K	\$293.6K	\$319.9K	\$298.3K	\$292.3K	\$354.9K	\$355.1K
Finance and Insurance	\$147.6K	\$157.9K	\$172.1K	\$177.1K	\$197K	\$182.1K	\$174.9K	\$180.9K	\$170.3K	\$168.6K	\$120.3K	\$169.9K	\$191.9K	\$197.8K	\$195.8K	\$186.3K	\$184.6K
Professional and Scientific Services	\$133.7K	\$136.4K	\$126.7K	\$129.3K	\$129.3K	\$127.5K	\$127.5K	\$127.3K	\$124.8K	\$128.3K	\$138.1K	\$131.3K	\$132.5K	\$135.7K	\$137.9K	\$131.3K	\$130.4K
Manufacturing and Mining	\$88.6K	\$93.5K	\$98.4K	\$97.9K	\$90.9K	\$94.4K	\$100.1K	\$100K	\$107.9K	\$109.1K	\$113.3K	\$107.3K	\$123.9K	\$128.5K	\$129.2K	\$127.6K	\$127.5K
Construction	\$90.9K	\$92.3K	\$93.7K	\$98.6K	\$99.8K	\$102K	\$104.6K	\$109.3K	\$105.7K	\$109.7K	\$102.7K	\$107K	\$107.5K	\$110.1K	\$113.4K	\$113.5K	\$114.3K
Transportation and Warehousing	\$103.3K	\$102.4K	\$103.2K	\$107K	\$105.3K	\$98.5K	\$103.8K	\$105.4K	\$108.2K	\$102.6K	\$103.7K	\$101.7K	\$106.5K	\$110.6K	\$109.5K	\$108.8K	\$110K
Information	\$148.9K	\$155K	\$112.5K	\$95.5K	\$64.3K	\$95.1K	\$98.5K	\$121.6K	\$115.1K	\$110.8K	\$103.6K	\$109.9K	\$124.1K	\$119.1K	\$119.9K	\$111.2K	\$108.2K
Wholesale and Retail Trade	\$86.6K	\$87.4K	\$87.9K	\$86.2K	\$83.7K	\$84.4K	\$84.6K	\$87.6K	\$88.1K	\$89.5K	\$85.6K	\$84.5K	\$90.1K	\$92K	\$93.3K	\$94.2K	\$95.2K
Arts, Entertainment, and Recreation	\$83.7K	\$87.2K	\$87.7K	\$81.6K	\$84.2K	\$86.3K	\$85.6K	\$83.3K	\$84.5K	\$85.1K	\$82.9K	\$86.3K	\$89.8K	\$88K	\$88K	\$87.4K	\$88.1K
Health Care and Social Assistance	\$59.3K	\$62.3K	\$61.7K	\$63.8K	\$63.7K	\$66K	\$66.2K	\$66.2K	\$65.7K	\$65.7K	\$67.7K	\$69.1K	\$68.8K	\$67.6K	\$66.5K	\$66.4K	\$66.8K
Other Services, Except Government	\$62.6K	\$64.7K	\$65K	\$59.3K	\$62.5K	\$60.4K	\$61.4K	\$62.1K	\$62K	\$60.1K	\$58.5K	\$60.5K	\$62.5K	\$62.1K	\$63.2K	\$63.7K	\$64.7K
Administrative and Support Services	\$43.2K	\$43.8K	\$46.9K	\$45.7K	\$50.3K	\$50.6K	\$51.8K	\$49.6K	\$53.5K	\$52.1K	\$49.7K	\$50.4K	\$53.6K	\$53.3K	\$53.5K	\$52.9K	\$54.5K
Educational Services	\$42.2K	\$43K	\$42.9K	\$43.4K	\$43.1K	\$45.4K	\$46.9K	\$47.3K	\$47.7K	\$48.2K	\$49K	\$52.1K	\$52K	\$51K	\$50.1K	\$48.7K	\$48.1K
Accommodation and Food Services	\$33.6K	\$35.6K	\$38.3K	\$36.3K	\$36K	\$33.8K	\$33.9K	\$33K	\$33.2K	\$33.5K	\$31.6K	\$32.6K	\$32.9K	\$33.4K	\$33.5K	\$33.3K	\$33.6K

Table 9: Real SGDP per Employee

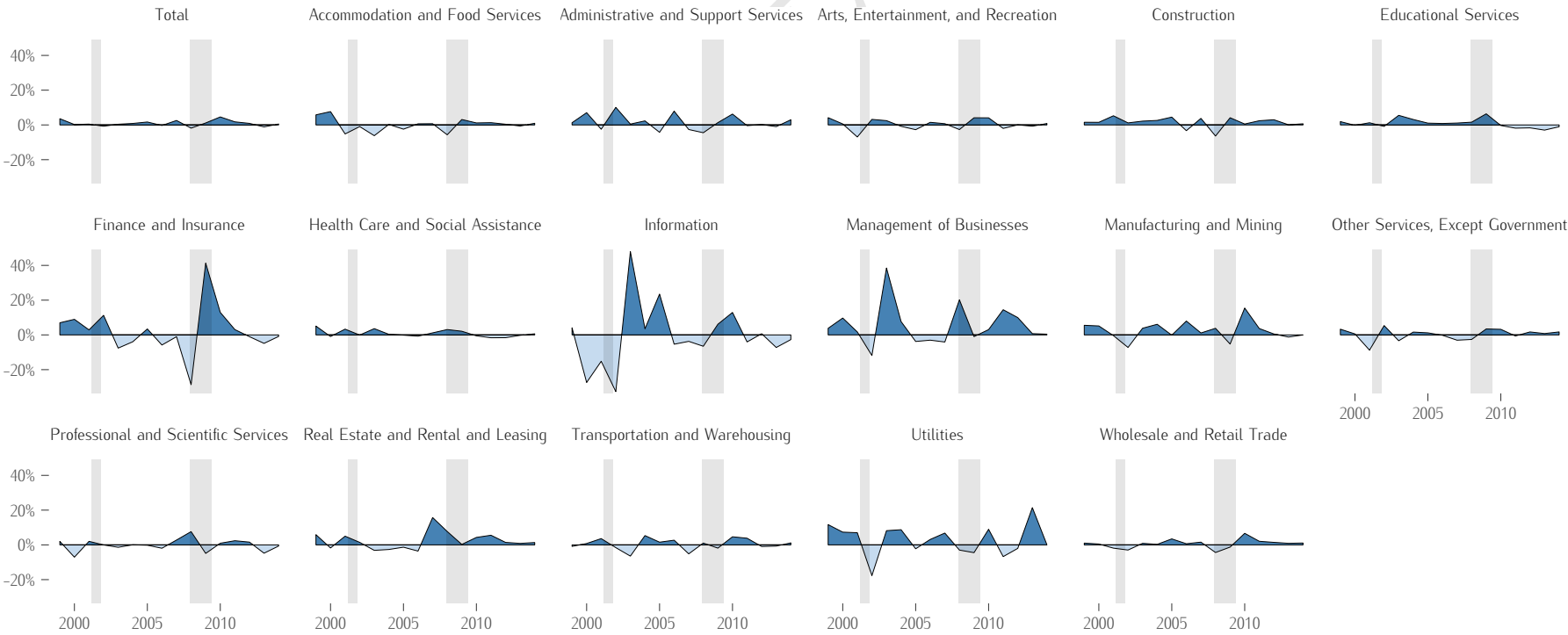


Figure 16: Real SGDP per Employee Growth



7.3.3 REAL LARGE BUSINESS GDP PER EMPLOYEE

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$95K	\$96.3K	\$98.1K	\$96.6K	\$104.1K	\$107.1K	\$111K	\$115K	\$114.6K	\$114.6K	\$113.1K	\$114.9K	\$121.2K	\$120.7K	\$121.7K	\$121.7K	\$121.8K
Utilities	\$348.4K	\$385.4K	\$380.9K	\$377.1K	\$377.3K	\$InflT	\$409.5K	\$394.7K	\$458.4K	\$444.7K	\$427.8K	\$452.2K	\$476.9K	\$478.7K	\$451.9K	\$447.2K	\$458.3K
Information	\$208.4K	\$223.7K	\$202.2K	\$201.6K	\$245.1K	\$231.5K	\$260.8K	\$259K	\$256.6K	\$272.8K	\$280.5K	\$277.7K	\$297.1K	\$291.2K	\$290K	\$296.9K	\$294.8K
Real Estate and Rental and Leasing	\$219.2K	\$220.2K	\$218.2K	\$200.5K	\$233.6K	\$254.9K	\$257.9K	\$289.1K	\$276.1K	\$233.7K	\$178K	\$224.8K	\$269.7K	\$285.8K	\$308.2K	\$290.8K	\$289.2K
Manufacturing and Mining	\$142.2K	\$147.5K	\$153.6K	\$147.4K	\$170.3K	\$181.3K	\$194K	\$209.8K	\$216.2K	\$223.5K	\$228.3K	\$237.4K	\$268.3K	\$274.5K	\$272.5K	\$274.4K	\$275.2K
Finance and Insurance	\$155.6K	\$153.4K	\$164.9K	\$166.8K	\$153.2K	\$161.8K	\$164.3K	\$183.2K	\$186.4K	\$182K	\$168.2K	\$171.4K	\$177.7K	\$179.9K	\$198.5K	\$196.2K	\$208.9K
Professional and Scientific Services	\$107K	\$109K	\$130.1K	\$118.9K	\$132.5K	\$124.7K	\$126.2K	\$133.5K	\$135.2K	\$138.4K	\$152.8K	\$150.5K	\$152.2K	\$152.7K	\$157.1K	\$152K	\$149.4K
Construction	\$87.7K	\$87.4K	\$92.1K	\$92.2K	\$103.9K	\$113.9K	\$128.9K	\$143.8K	\$129.5K	\$111.5K	\$96.1K	\$96.4K	\$110.8K	\$115K	\$121.4K	\$124.1K	\$126.6K
Transportation and Warehousing	\$116.7K	\$112.1K	\$109.9K	\$106.4K	\$111.8K	\$99.3K	\$105.1K	\$107.2K	\$108.9K	\$105.1K	\$104.7K	\$105.9K	\$118.3K	\$117K	\$117K	\$118.3K	\$117.5K
Wholesale and Retail Trade	\$78K	\$78.4K	\$79.7K	\$78.4K	\$84.1K	\$87.7K	\$88.2K	\$90.8K	\$90.1K	\$89.4K	\$88.7K	\$90.4K	\$95.1K	\$94.2K	\$96.6K	\$97K	\$96.1K
Other Services, Except Government	\$74.6K	\$70.3K	\$77.8K	\$72.9K	\$76.7K	\$81.4K	\$79.5K	\$82.2K	\$82.8K	\$80.9K	\$85.5K	\$87.3K	\$83.3K	\$85.9K	\$86.2K	\$83.5K	\$83.9K
Arts, Entertainment, and Recreation	\$45.3K	\$47.4K	\$49.7K	\$47.8K	\$53.1K	\$54.8K	\$56.6K	\$57.9K	\$InflT	\$60.5K	\$58.8K	\$56.1K	\$56.8K	\$59.9K	\$63.3K	\$65.7K	\$65.3K
Health Care and Social Assistance	\$48K	\$48.6K	\$51K	\$51.6K	\$55.6K	\$54.1K	\$55.9K	\$56.6K	\$57.8K	\$58K	\$59.6K	\$61.8K	\$62.1K	\$62.4K	\$63.6K	\$63.9K	\$63.6K
Management of Businesses	\$56.5K	\$57.1K	\$63.3K	\$60.2K	\$59.7K	\$55.3K	\$61K	\$65K	\$69.1K	\$69.1K	\$67.5K	\$62.3K	\$68.5K	\$61.9K	\$59.4K	\$63.7K	\$62.7K
Educational Services	\$46.1K	\$46.7K	\$47.2K	\$47.5K	\$50K	\$50.5K	\$51.3K	\$51.7K	\$51.9K	\$53.3K	\$54.6K	\$58K	\$58.3K	\$57.2K	\$57.7K	\$57.3K	\$58.8K
Administrative and Support Services	\$39.5K	\$39.2K	\$37.4K	\$40.2K	\$43.8K	\$45.2K	\$46.4K	\$47.8K	\$41.3K	\$45.9K	\$45.4K	\$49.2K	\$52.1K	\$50.2K	\$48.5K	\$47.5K	\$47.3K
Accommodation and Food Services	\$36.6K	\$39.4K	\$39K	\$40.9K	\$44.7K	\$46.1K	\$47.1K	\$46.8K	\$45.9K	\$44.9K	\$43.1K	\$42.1K	\$44.7K	\$44.2K	\$44.6K	\$44.8K	\$45.1K

Table 10: Real GDP per Large Business Employee

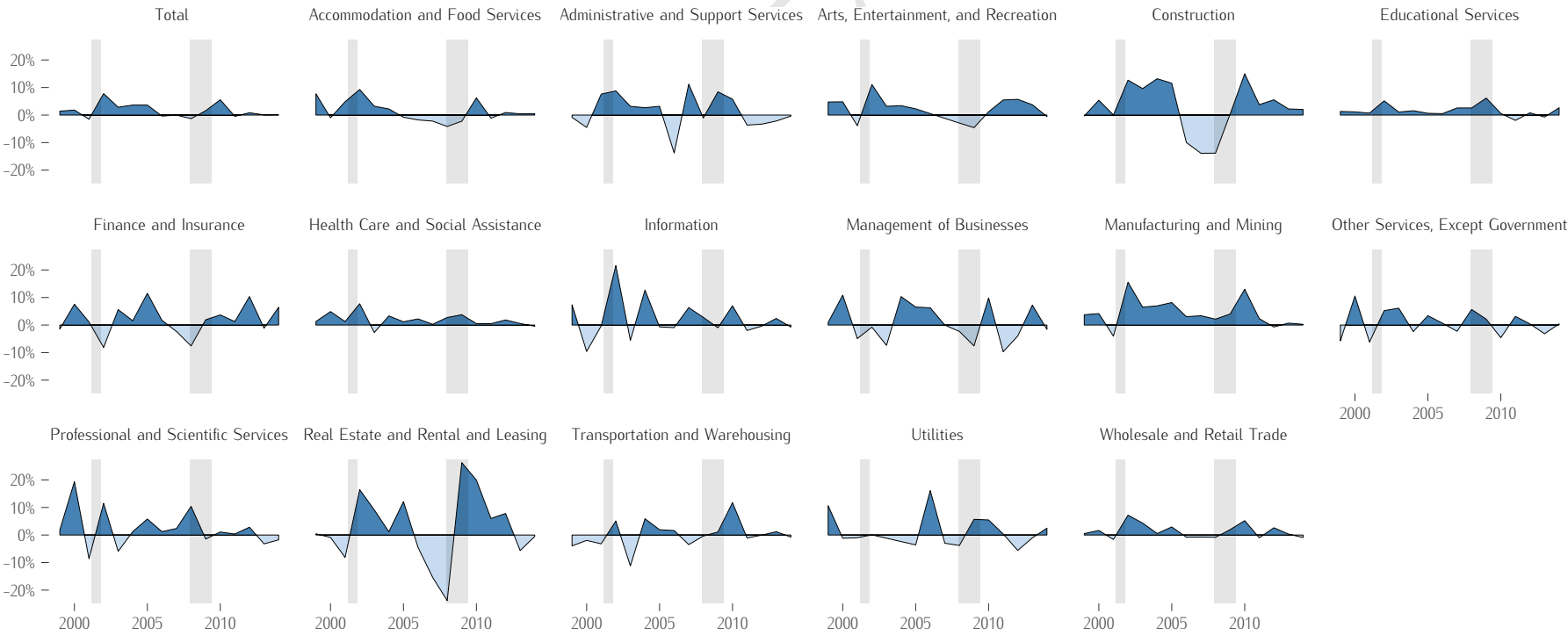


Figure 17: Real Large Business GDP per Employee Growth

## 7.3.4 REAL GDP PER PAYROLL DOLLAR

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$2.17	\$2.16	\$2.1	\$2.1	\$2.19	\$2.23	\$2.26	\$2.3	\$2.28	\$2.27	\$2.24	\$2.29	\$2.34	\$2.33	\$2.33	\$2.32	\$2.3
Real Estate and Rental and Leasing	\$9.81	\$9.87	\$9.36	\$9.35	\$9.71	\$9.48	\$9.02	\$8.76	\$8.4	\$9.19	\$9.3	\$9.99	\$10.54	\$10.71	\$10.7	\$10.63	\$10.37
Utilities	\$4.3	\$4.58	\$4.43	\$4.39	\$4.3	\$4.2	\$4.53	\$4.35	\$4.82	\$4.6	\$4.32	\$4.62	\$4.82	\$4.7	\$4.45	\$4.5	\$4.56
Manufacturing and Mining	\$2.41	\$2.44	\$2.5	\$2.5	\$2.62	\$2.78	\$2.88	\$3.06	\$3.16	\$3.25	\$3.31	\$3.41	\$3.62	\$3.66	\$3.63	\$3.64	\$3.59
Information	\$2.97	\$2.85	\$2.26	\$2.42	\$2.92	\$2.76	\$3.1	\$3.16	\$3.04	\$3.15	\$3.13	\$3.13	\$3.26	\$3.11	\$2.89	\$2.9	\$2.81
Wholesale and Retail Trade	\$2.43	\$2.35	\$2.31	\$2.25	\$2.32	\$2.41	\$2.41	\$2.45	\$2.45	\$2.47	\$2.4	\$2.41	\$2.49	\$2.47	\$2.54	\$2.55	\$2.52
Transportation and Warehousing	\$2.56	\$2.47	\$2.43	\$2.38	\$2.4	\$2.25	\$2.37	\$2.43	\$2.45	\$2.33	\$2.4	\$2.42	\$2.55	\$2.54	\$2.53	\$2.5	\$2.44
Arts, Entertainment, and Recreation	\$2.3	\$2.29	\$2.29	\$2.09	\$2.17	\$2.31	\$2.33	\$2.31	\$2.29	\$2.28	\$2.25	\$2.27	\$2.32	\$2.32	\$2.38	\$2.42	\$2.39
Other Services, Except Government	\$2.44	\$2.43	\$2.42	\$2.2	\$2.3	\$2.29	\$2.31	\$2.32	\$2.32	\$2.22	\$2.18	\$2.24	\$2.26	\$2.24	\$2.26	\$2.25	\$2.24
Finance and Insurance	\$2.21	\$2.17	\$2.16	\$2.19	\$2.24	\$2.21	\$2.11	\$2.22	\$2.18	\$2.04	\$1.74	\$2.1	\$2.13	\$2.1	\$2.19	\$2.14	\$2.16
Accommodation and Food Services	\$2.18	\$2.25	\$2.28	\$2.28	\$2.36	\$2.31	\$2.33	\$2.3	\$2.27	\$2.24	\$2.16	\$2.14	\$2.13	\$2.13	\$2.16	\$2.13	\$2.14
Construction	\$1.92	\$1.91	\$1.93	\$1.97	\$2	\$2.08	\$2.19	\$2.24	\$2.17	\$2.13	\$1.96	\$2.05	\$2.08	\$2.06	\$2.12	\$2.11	\$2.08
Professional and Scientific Services	\$1.97	\$1.93	\$1.81	\$1.85	\$1.95	\$1.86	\$1.85	\$1.85	\$1.82	\$1.81	\$1.95	\$1.9	\$1.88	\$1.89	\$1.9	\$1.81	\$1.79
Educational Services	\$1.42	\$1.41	\$1.39	\$1.37	\$1.37	\$1.41	\$1.45	\$1.47	\$1.47	\$1.47	\$1.47	\$1.55	\$1.53	\$1.52	\$1.52	\$1.48	\$1.49
Health Care and Social Assistance	\$1.34	\$1.37	\$1.38	\$1.38	\$1.39	\$1.4	\$1.41	\$1.41	\$1.41	\$1.39	\$1.41	\$1.43	\$1.43	\$1.42	\$1.42	\$1.43	\$1.43
Administrative and Support Services	\$1.41	\$1.38	\$1.34	\$1.33	\$1.42	\$1.47	\$1.47	\$1.49	\$1.41	\$1.43	\$1.4	\$1.43	\$1.45	\$1.4	\$1.37	\$1.35	\$1.33
Management of Businesses	\$0.8	\$0.78	\$0.82	\$0.82	\$0.86	\$0.88	\$0.93	\$0.9	\$0.9	\$0.89	\$0.96	\$0.93	\$0.95	\$0.94	\$0.96	\$0.99	\$0.96

Table 11: Real GDP per Payroll Dollar

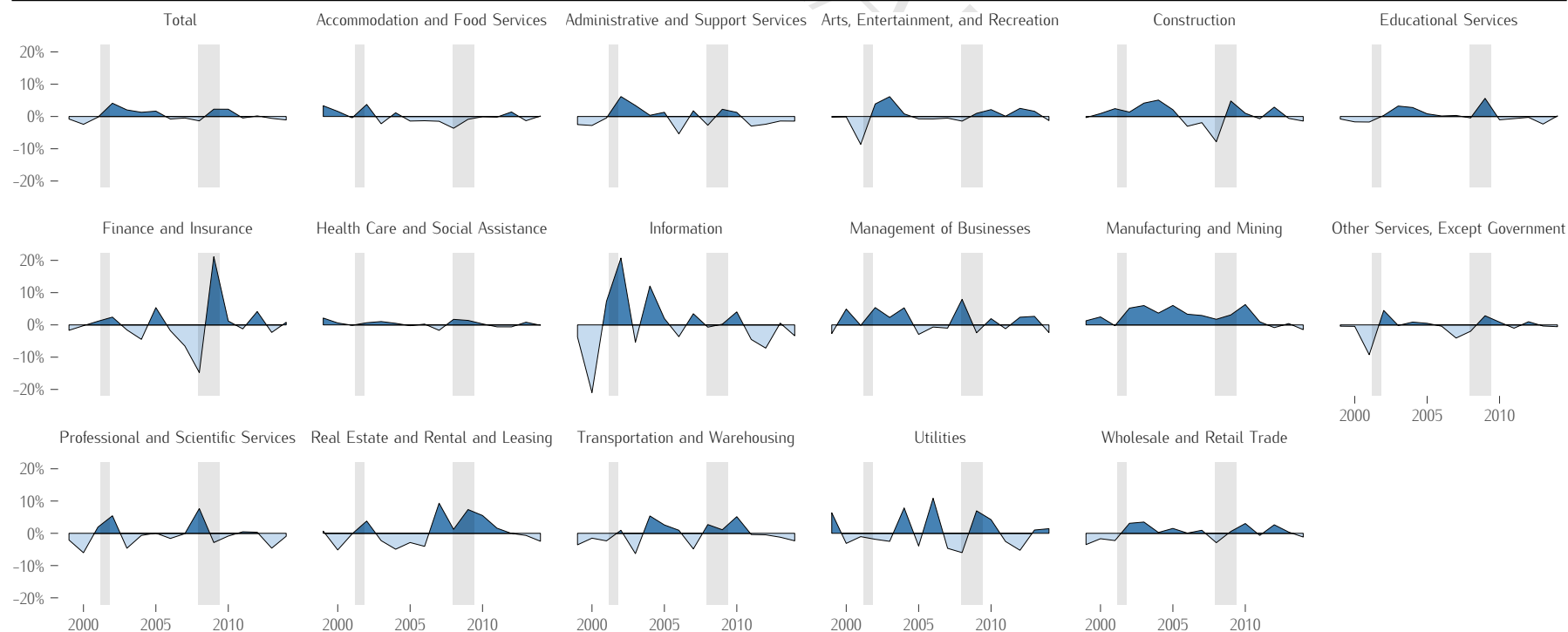


Figure 18: Real GDP per Payroll Dollar Growth

## 7.3.5 REAL SGDP PER PAYROLL DOLLAR

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$2.34	\$2.36	\$2.3	\$2.32	\$2.28	\$2.33	\$2.33	\$2.33	\$2.33	\$2.35	\$2.32	\$2.38	\$2.44	\$2.46	\$2.47	\$2.46	\$2.44
Real Estate and Rental and Leasing	\$11.79	\$12.07	\$11.51	\$11.88	\$11.91	\$11.46	\$10.89	\$10.28	\$10.02	\$11.66	\$12.77	\$13.08	\$13.41	\$13.83	\$13.48	\$13.57	\$13.29
Management of Businesses	\$2.85	\$2.83	\$3.02	\$3.12	\$2.93	\$3.86	\$4.11	\$3.85	\$3.65	\$3.53	\$4.23	\$4.18	\$4.09	\$4.76	\$5.15	\$5.32	\$5.27
Utilities	\$4.18	\$4.55	\$5.02	\$5.3	\$4.31	\$Infl	\$4.69	\$4.6	\$4.71	\$4.66	\$4.48	\$4.31	\$4.55	\$4.17	\$4.06	\$5	\$4.94
Transportation and Warehousing	\$2.82	\$2.74	\$2.75	\$2.87	\$2.75	\$2.63	\$2.7	\$2.7	\$2.75	\$2.58	\$2.64	\$2.67	\$2.69	\$2.75	\$2.71	\$2.7	\$2.68
Manufacturing and Mining	\$2.09	\$2.15	\$2.21	\$2.25	\$2.03	\$2.13	\$2.21	\$2.21	\$2.38	\$2.41	\$2.47	\$2.42	\$2.59	\$2.66	\$2.66	\$2.65	\$2.6
Arts, Entertainment, and Recreation	\$2.51	\$2.52	\$2.56	\$2.3	\$2.36	\$2.5	\$2.49	\$2.46	\$Infl	\$2.46	\$2.41	\$2.5	\$2.55	\$2.52	\$2.54	\$2.59	\$2.57
Finance and Insurance	\$2.48	\$2.62	\$2.65	\$2.71	\$2.95	\$2.72	\$2.59	\$2.62	\$2.44	\$2.31	\$1.65	\$2.38	\$2.63	\$2.68	\$2.53	\$2.49	\$2.39
Wholesale and Retail Trade	\$2.33	\$2.28	\$2.25	\$2.21	\$2.14	\$2.2	\$2.19	\$2.22	\$2.23	\$2.24	\$2.17	\$2.18	\$2.25	\$2.26	\$2.27	\$2.29	\$2.29
Other Services, Except Government	\$2.47	\$2.48	\$2.46	\$2.21	\$2.31	\$2.28	\$2.32	\$2.31	\$2.31	\$2.2	\$2.13	\$2.2	\$2.25	\$2.22	\$2.25	\$2.26	\$2.26
Construction	\$1.99	\$1.98	\$2.01	\$2.07	\$2.06	\$2.13	\$2.21	\$2.24	\$2.2	\$2.22	\$2.09	\$2.22	\$2.19	\$2.17	\$2.23	\$2.19	\$2.16
Accommodation and Food Services	\$2.28	\$2.36	\$2.49	\$2.36	\$2.33	\$2.24	\$2.24	\$2.17	\$2.2	\$2.18	\$2.06	\$2.08	\$2.05	\$2.06	\$2.08	\$2.04	\$2.03
Professional and Scientific Services	\$2.16	\$2.15	\$1.88	\$1.99	\$2.01	\$2	\$1.98	\$1.94	\$1.91	\$1.91	\$2.07	\$2.02	\$1.99	\$2	\$2	\$1.92	\$1.88
Health Care and Social Assistance	\$1.52	\$1.57	\$1.53	\$1.55	\$1.53	\$1.61	\$1.62	\$1.61	\$1.61	\$1.6	\$1.65	\$1.67	\$1.68	\$1.67	\$1.65	\$1.68	\$1.7
Administrative and Support Services	\$1.43	\$1.39	\$1.43	\$1.4	\$1.52	\$1.57	\$1.58	\$1.5	\$1.63	\$1.54	\$1.48	\$1.5	\$1.54	\$1.53	\$1.52	\$1.51	\$1.53
Information	\$2.64	\$2.51	\$1.63	\$1.58	\$1.07	\$1.55	\$1.6	\$1.97	\$1.88	\$1.76	\$1.63	\$1.76	\$1.89	\$1.79	\$1.75	\$1.61	\$1.52
Educational Services	\$1.52	\$1.51	\$1.47	\$1.46	\$1.43	\$1.5	\$1.55	\$1.57	\$1.58	\$1.57	\$1.57	\$1.68	\$1.65	\$1.62	\$1.6	\$1.55	\$1.52

Table 12: Real Small Business GDP per Payroll Dollar

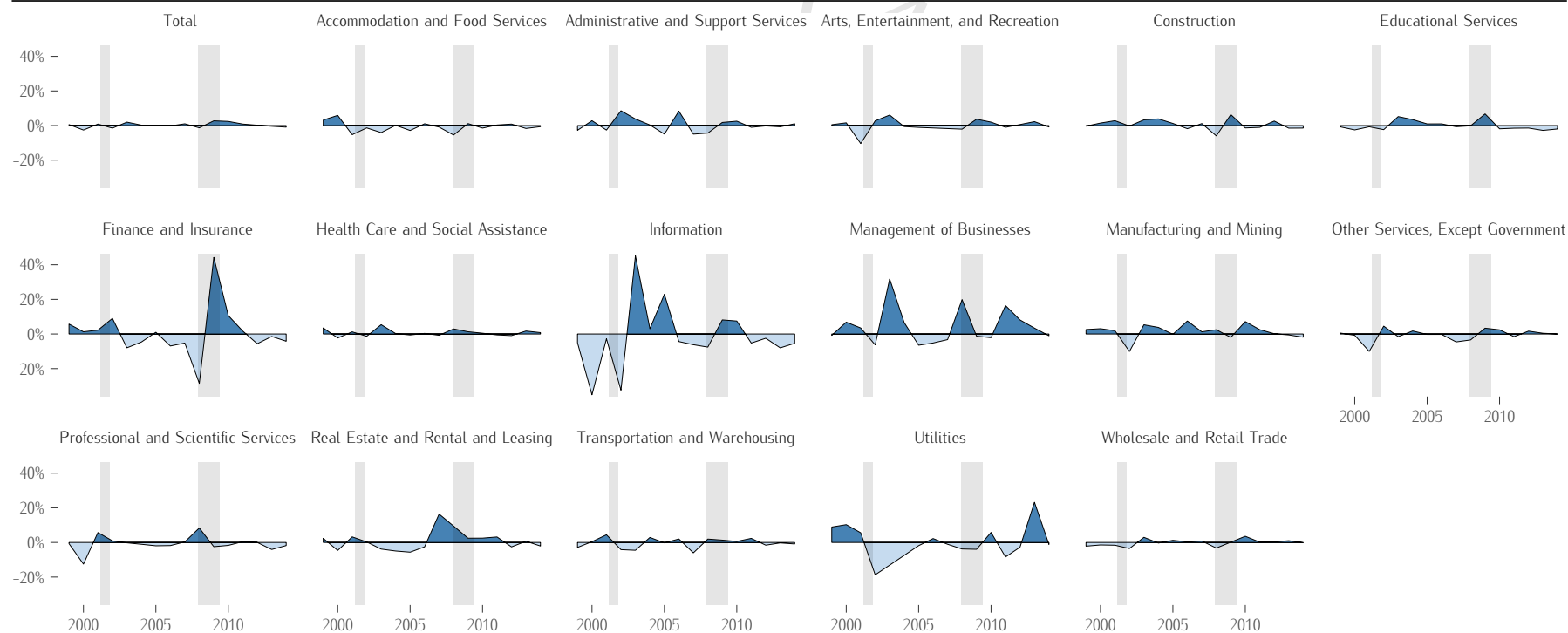


Figure 19: Real SGDP per Payroll Dollar Growth

## 7.3.6 REAL LARGE BUSINESS GDP PER PAYROLL DOLLAR

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	\$2.03	\$1.99	\$1.95	\$1.93	\$2.11	\$2.15	\$2.2	\$2.27	\$2.24	\$2.21	\$2.18	\$2.22	\$2.27	\$2.23	\$2.24	\$2.22	\$2.2
Real Estate and Rental and Leasing	\$5.28	\$5.18	\$4.95	\$4.47	\$5.29	\$5.56	\$5.39	\$5.88	\$5.43	\$4.74	\$3.62	\$4.67	\$5.34	\$5.32	\$5.63	\$5.31	\$5.12
Utilities	\$4.32	\$4.58	\$4.36	\$4.27	\$4.3	\$InfT	\$4.5	\$4.31	\$4.84	\$4.59	\$4.3	\$4.67	\$4.86	\$4.77	\$4.51	\$4.42	\$4.5
Manufacturing and Mining	\$2.58	\$2.6	\$2.66	\$2.63	\$2.97	\$3.16	\$3.29	\$3.57	\$3.64	\$3.76	\$3.83	\$4.01	\$4.27	\$4.28	\$4.23	\$4.24	\$4.19
Information	\$3.07	\$2.97	\$2.46	\$2.66	\$3.46	\$3.11	\$3.54	\$3.51	\$3.38	\$3.54	\$3.57	\$3.52	\$3.66	\$3.49	\$3.22	\$3.26	\$3.16
Wholesale and Retail Trade	\$2.55	\$2.42	\$2.37	\$2.3	\$2.53	\$2.63	\$2.64	\$2.68	\$2.67	\$2.7	\$2.61	\$2.62	\$2.69	\$2.65	\$2.77	\$2.77	\$2.71
Transportation and Warehousing	\$2.41	\$2.32	\$2.26	\$2.12	\$2.21	\$2.07	\$2.2	\$2.29	\$2.3	\$2.21	\$2.28	\$2.31	\$2.48	\$2.44	\$2.44	\$2.4	\$2.33
Accommodation and Food Services	\$2.04	\$2.11	\$2.03	\$2.17	\$2.4	\$2.39	\$2.45	\$2.45	\$2.36	\$2.3	\$2.27	\$2.2	\$2.23	\$2.22	\$2.26	\$2.24	\$2.27
Other Services, Except Government	\$2.33	\$2.21	\$2.25	\$2.13	\$2.22	\$2.37	\$2.29	\$2.38	\$2.35	\$2.31	\$2.4	\$2.42	\$2.3	\$2.32	\$2.28	\$2.19	\$2.13
Finance and Insurance	\$2.1	\$2	\$1.98	\$2	\$1.97	\$2.01	\$1.92	\$2.07	\$2.08	\$1.94	\$1.77	\$1.99	\$1.93	\$1.89	\$2.06	\$2.01	\$2.07
Arts, Entertainment, and Recreation	\$1.68	\$1.67	\$1.64	\$1.6	\$1.74	\$1.84	\$1.93	\$1.96	\$InfT	\$1.91	\$1.92	\$1.83	\$1.87	\$1.93	\$2.07	\$2.1	\$2.06
Construction	\$1.49	\$1.5	\$1.52	\$1.55	\$1.72	\$1.86	\$2.08	\$2.22	\$2.03	\$1.7	\$1.45	\$1.42	\$1.62	\$1.65	\$1.73	\$1.8	\$1.78
Professional and Scientific Services	\$1.61	\$1.56	\$1.7	\$1.62	\$1.85	\$1.66	\$1.66	\$1.72	\$1.7	\$1.69	\$1.81	\$1.75	\$1.76	\$1.77	\$1.78	\$1.69	\$1.7
Educational Services	\$1.35	\$1.34	\$1.33	\$1.3	\$1.33	\$1.35	\$1.39	\$1.4	\$1.39	\$1.41	\$1.4	\$1.47	\$1.47	\$1.47	\$1.47	\$1.44	\$1.47
Health Care and Social Assistance	\$1.19	\$1.2	\$1.24	\$1.23	\$1.26	\$1.22	\$1.23	\$1.24	\$1.24	\$1.22	\$1.22	\$1.25	\$1.25	\$1.25	\$1.26	\$1.26	\$1.25
Administrative and Support Services	\$1.4	\$1.37	\$1.28	\$1.29	\$1.35	\$1.39	\$1.4	\$1.48	\$1.28	\$1.37	\$1.35	\$1.38	\$1.39	\$1.34	\$1.29	\$1.27	\$1.24
Management of Businesses	\$0.61	\$0.59	\$0.63	\$0.61	\$0.64	\$0.58	\$0.61	\$0.62	\$0.63	\$0.63	\$0.62	\$0.6	\$0.62	\$0.55	\$0.53	\$0.57	\$0.56

Table 13: Real Large Business GDP per Payroll Dollar

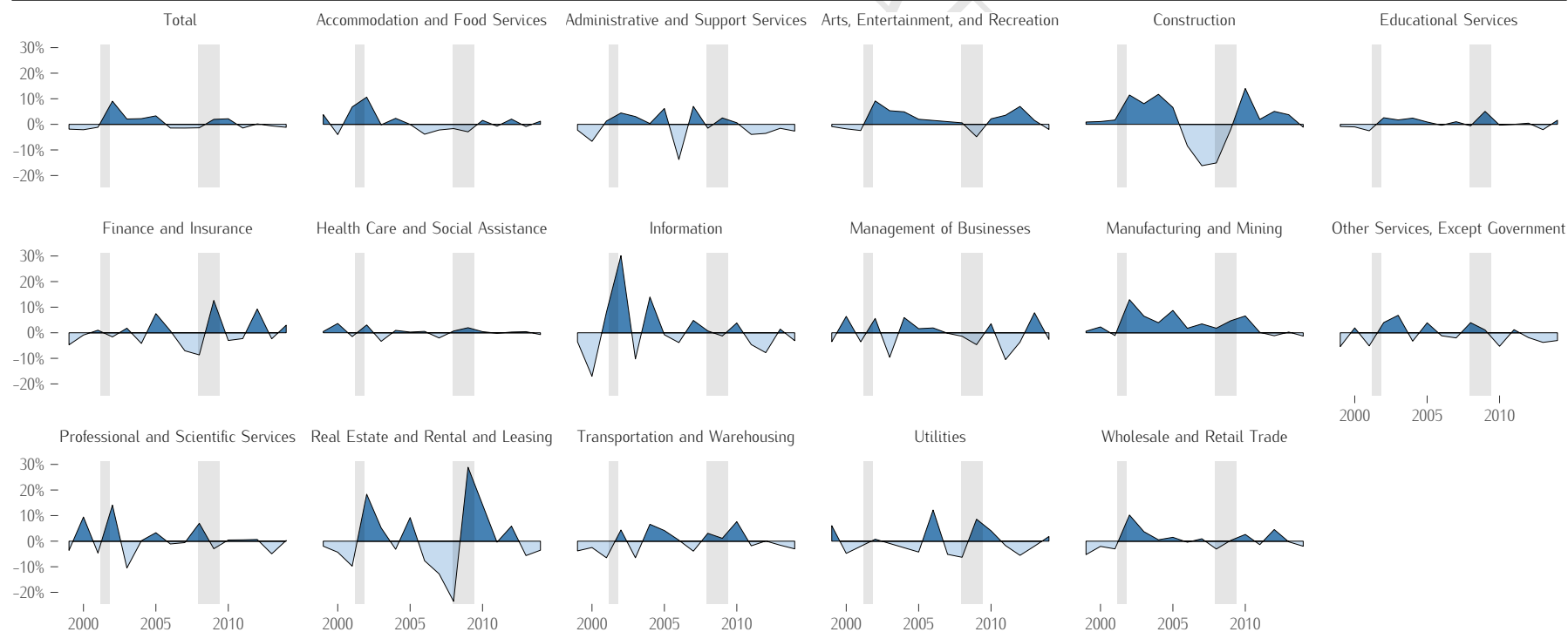


Figure 20: Real Large Business GDP per Payroll Dollar

7.4 EMPLOYMENT (SUSB)

7.4.1 OVERALL EMPLOYMENT

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	107.9M	110.5M	113.9M	114.9M	112.2M	113.2M	114.9M	116.1M	119.8M	120.4M	120.7M	114.4M	111.8M	113.3M	115.8M	118.1M	120.9M
Wholesale and Retail Trade	20.1M	20.4M	21M	21M	20.7M	20.7M	21.3M	21.3M	21.8M	21.7M	21.8M	20.6M	20.1M	20.3M	20.6M	20.9M	21.3M
Health Care and Social Assistance	13.8M	13.9M	14.1M	14.5M	14.9M	15.5M	15.8M	16M	16.5M	16.8M	17.2M	17.5M	17.8M	18.1M	18.4M	18.6M	18.9M
Accommodation and Food Services	9.5M	9.6M	9.9M	10M	10M	10.4M	10.7M	11M	11.4M	11.6M	11.9M	11.4M	11.3M	11.6M	12M	12.4M	12.8M
Manufacturing and Mining	17.4M	17.1M	16.9M	16.4M	14.9M	14.6M	14.3M	14.2M	14.2M	14M	13.7M	12.2M	11.4M	11.6M	11.9M	12M	12.2M
Administrative and Support Services	7.8M	8.4M	9.1M	9.1M	8.3M	8.5M	8.7M	9.3M	10M	10M	10.2M	9.1M	9M	9.4M	9.9M	10.2M	10.6M
Professional and Scientific Services	6.1M	6.4M	6.8M	7.2M	7M	7.3M	7.6M	7.7M	8.1M	8.2M	8M	7.8M	7.8M	7.9M	8M	8.3M	8.6M
Finance and Insurance	5.8M	6M	6M	6.2M	6.4M	6.5M	6.5M	6.4M	6.6M	6.5M	6.5M	6.2M	5.9M	5.9M	6M	6.1M	6.1M
Construction	5.8M	6.2M	6.6M	6.5M	6.3M	6.4M	6.6M	6.8M	7.3M	7.3M	7M	6M	5.4M	5.2M	5.3M	5.5M	5.7M
Other Services, Except Government	5M	5.2M	5.3M	5.4M	5.4M	5.4M	5.4M	5.4M	5.5M	5.5M	5.5M	5.3M	5.2M	5.2M	5.3M	5.3M	5.3M
Transportation and Warehousing	3.5M	3.6M	3.8M	3.8M	3.6M	4.1M	4.1M	4.2M	4.3M	4.4M	4.4M	4.2M	4M	4.1M	4.2M	4.3M	4.4M
Educational Services	2.3M	2.4M	2.5M	2.6M	2.7M	2.8M	2.9M	2.9M	3M	3M	3.1M	3.2M	3.3M	3.4M	3.5M	3.5M	3.6M
Information	3.1M	3.2M	3.5M	3.8M	3.5M	3.6M	3.5M	3.4M	3.4M	3.4M	3.4M	3.3M	3.1M	3.1M	3.1M	3.3M	3.4M
Management of Businesses	2.7M	2.8M	2.9M	2.9M	2.9M	2.9M	2.8M	2.9M	2.9M	3.1M	2.9M	2.9M	2.8M	2.9M	3M	3.1M	3.2M
Arts, Entertainment, and Recreation	1.6M	1.6M	1.7M	1.8M	1.8M	1.8M	1.9M	1.9M	2M	2M	2.1M	2M	2M	2M	2.1M	2.1M	2.2M
Real Estate and Rental and Leasing	1.8M	1.9M	1.9M	2M	2M	2M	2.1M	2.1M	2.2M	2.2M	2.2M	2M	1.9M	1.9M	1.9M	2M	2M
Utilities	682.2K	667.1K	655.2K	654.5K	648.3K	675.9K	634.7K	633.1K	614.4K	622.8K	639.4K	641.6K	638.1K	639.8K	641.1K	638.6K	637.8K

Table 14: Overall Employment



7.4.2 SMALL BUSINESS EMPLOYMENT

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	54.9M	55.6M	57M	57.2M	56.4M	57.4M	58.6M	58.5M	60.2M	59.7M	59.6M	56.2M	54.9M	54.9M	55.9M	56.7M	57.8M
Wholesale and Retail Trade	10.2M	10.2M	10.4M	10.3M	10M	10M	10.1M	9.9M	10M	9.8M	9.7M	9M	8.7M	8.7M	8.8M	8.8M	8.9M
Health Care and Social Assistance	6.5M	6.5M	6.7M	6.9M	7.1M	7.5M	7.7M	7.7M	7.9M	8M	8.2M	8.3M	8.4M	8.4M	8.5M	8.5M	8.6M
Accommodation and Food Services	5.8M	5.8M	6M	6M	6.1M	6.3M	6.6M	6.6M	6.8M	6.9M	7M	6.8M	6.8M	6.9M	7.2M	7.5M	7.7M
Manufacturing and Mining	7.2M	7M	7M	6.9M	6.3M	6.3M	6.3M	6.3M	6.3M	6.2M	6.1M	5.5M	5.2M	5.2M	5.4M	5.3M	5.4M
Professional and Scientific Services	4M	4.2M	4.4M	4.6M	4.5M	4.5M	4.7M	4.7M	5M	5M	4.9M	4.8M	4.7M	4.7M	4.8M	4.9M	5M
Construction	5.1M	5.4M	5.7M	5.5M	5.4M	5.5M	5.7M	5.8M	6.3M	6.2M	5.9M	5M	4.5M	4.3M	4.4M	4.5M	4.7M
Other Services, Except Government	4.4M	4.4M	4.5M	4.6M	4.7M	4.6M	4.7M	4.6M	4.7M	4.7M	4.6M	4.5M	4.5M	4.4M	4.5M	4.5M	4.6M
Administrative and Support Services	3.3M	3.4M	3.5M	3.5M	3.3M	3.5M	3.6M	3.6M	3.7M	3.7M	3.8M	3.5M	3.4M	3.4M	3.5M	3.5M	3.6M
Finance and Insurance	1.9M	1.9M	1.9M	1.9M	2M	2.1M	2.1M	2.1M	2.2M	2.1M	2.1M	2M	2M	1.9M	1.9M	1.9M	1.9M
Transportation and Warehousing	1.5M	1.5M	1.6M	1.6M	1.5M	1.6M	1.6M	1.6M	1.6M	1.6M	1.6M	1.5M	1.5M	1.5M	1.6M	1.6M	1.6M
Educational Services	1.1M	1.1M	1.2M	1.2M	1.3M	1.3M	1.3M	1.3M	1.3M	1.4M	1.4M	1.4M	1.4M	1.4M	1.5M	1.5M	1.6M
Real Estate and Rental and Leasing	1.3M	1.3M	1.4M	1.4M	1.4M	1.4M	1.4M	1.5M	1.5M	1.5M	1.4M	1.4M	1.3M	1.3M	1.3M	1.4M	1.4M
Arts, Entertainment, and Recreation	1.1M	1.1M	1.2M	1.2M	1.2M	1.2M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M	1.3M
Information	903.2K	913.5K	996.5K	995K	904K	921.5K	908.9K	890.3K	894K	877.2K	916.5K	866.8K	826.8K	822.2K	861.8K	871.1K	895.3K
Management of Businesses	304.3K	313.7K	307.6K	325.5K	377.4K	348.2K	342.6K	338K	351.7K	383.6K	368.9K	362.2K	370.1K	374K	386.3K	376.5K	387K
Utilities	103.5K	102.4K	104.7K	106K	110.6K	109.1K	107.5K	109.2K	109.2K	110.3K	108.5K	108.2K	109.8K	109.3K	111.6K	110.4K	111.6K

Table 15: Small Business Employment

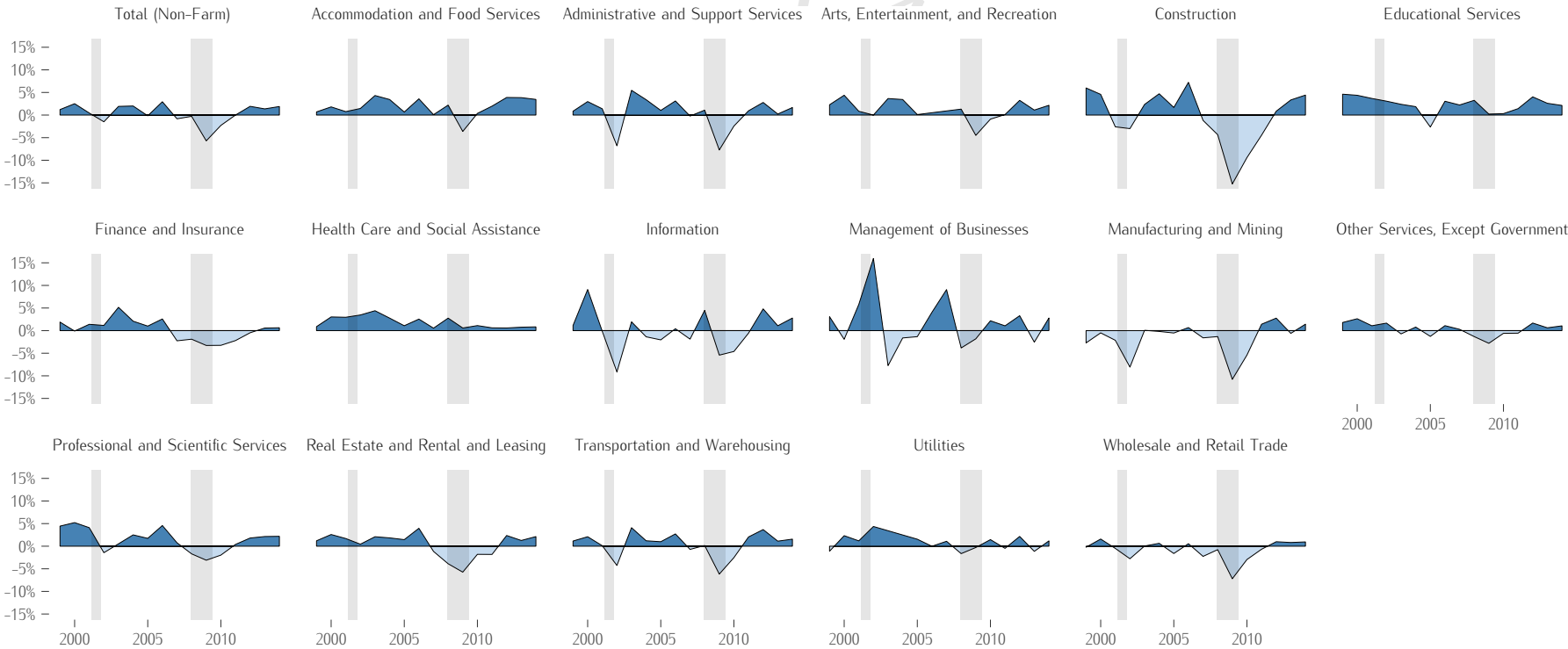


Figure 22: Small Business Employment Growth

## 7.4.3 LARGE BUSINESS EMPLOYMENT

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	53M	54.9M	56.9M	57.7M	56M	56M	56.5M	57.6M	59.7M	60.7M	61.2M	58.2M	56.9M	58.4M	59.9M	61.4M	63.2M
Wholesale and Retail Trade	9.9M	10.2M	10.6M	10.7M	10.6M	10.7M	11.1M	11.4M	11.8M	12M	12.1M	11.6M	11.4M	11.6M	11.8M	12.1M	12.4M
Health Care and Social Assistance	7.3M	7.4M	7.4M	7.6M	7.8M	8M	8.1M	8.3M	8.5M	8.8M	9M	9.3M	9.4M	9.7M	9.9M	10.1M	10.3M
Administrative and Support Services	4.4M	5M	5.7M	5.5M	5M	5M	5.1M	5.7M	6.3M	6.3M	6.5M	5.6M	5.6M	6M	6.4M	6.7M	7M
Manufacturing and Mining	10.2M	10.1M	9.9M	9.6M	8.6M	8.3M	8M	7.9M	7.9M	7.8M	7.6M	6.8M	6.3M	6.4M	6.5M	6.7M	6.8M
Accommodation and Food Services	3.7M	3.8M	3.9M	4M	4M	4.1M	4.2M	4.4M	4.5M	4.7M	4.9M	4.7M	4.5M	4.6M	4.8M	4.9M	5.1M
Finance and Insurance	3.9M	4M	4M	4.3M	4.5M	4.4M	4.4M	4.3M	4.5M	4.4M	4.4M	4.1M	4M	4M	4.1M	4.1M	4.1M
Professional and Scientific Services	2M	2.2M	2.4M	2.6M	2.5M	2.8M	2.9M	2.9M	3.1M	3.2M	3.1M	3.1M	3.2M	3.2M	3.2M	3.4M	3.6M
Management of Businesses	2.4M	2.5M	2.6M	2.6M	2.5M	2.5M	2.5M	2.5M	2.6M	2.7M	2.5M	2.5M	2.5M	2.5M	2.7M	2.7M	2.8M
Transportation and Warehousing	2M	2.1M	2.2M	2.2M	2.1M	2.5M	2.5M	2.6M	2.7M	2.8M	2.8M	2.6M	2.5M	2.6M	2.7M	2.7M	2.8M
Information	2.2M	2.3M	2.5M	2.8M	2.6M	2.7M	2.6M	2.5M	2.5M	2.5M	2.5M	2.4M	2.3M	2.3M	2.3M	2.4M	2.5M
Educational Services	1.2M	1.3M	1.3M	1.4M	1.4M	1.5M	1.6M	1.6M	1.6M	1.7M	1.7M	1.8M	1.9M	2M	2M	2M	2M
Construction	679K	774.8K	897.7K	964.7K	946K	894.2K	902K	939.6K	1.1M	1.1M	1.1M	948.9K	843.4K	847.6K	880.9K	943.8K	979K
Arts, Entertainment, and Recreation	475.6K	506.6K	558.4K	587.3K	607.9K	596.3K	609.8K	655.8K	0	695.3K	738.9K	739.7K	744.5K	742.7K	755.9K	796.3K	826K
Other Services, Except Government	688.5K	723.1K	748.7K	776.9K	750.2K	731K	743.6K	778K	795K	842.9K	837.4K	778.7K	745.6K	748.1K	748.1K	746.3K	763K
Real Estate and Rental and Leasing	504.7K	550.1K	584.2K	632.8K	630.3K	628.7K	644K	681K	695.8K	720.7K	751.2K	674.5K	608.9K	604.4K	596.4K	610.8K	631.1K
Utilities	578.7K	564.7K	550.5K	548.5K	537.7K	0	527.2K	523.9K	505.3K	512.4K	530.9K	533.3K	528.3K	530.5K	529.4K	528.2K	526.2K

Table 16: Large Business Employment

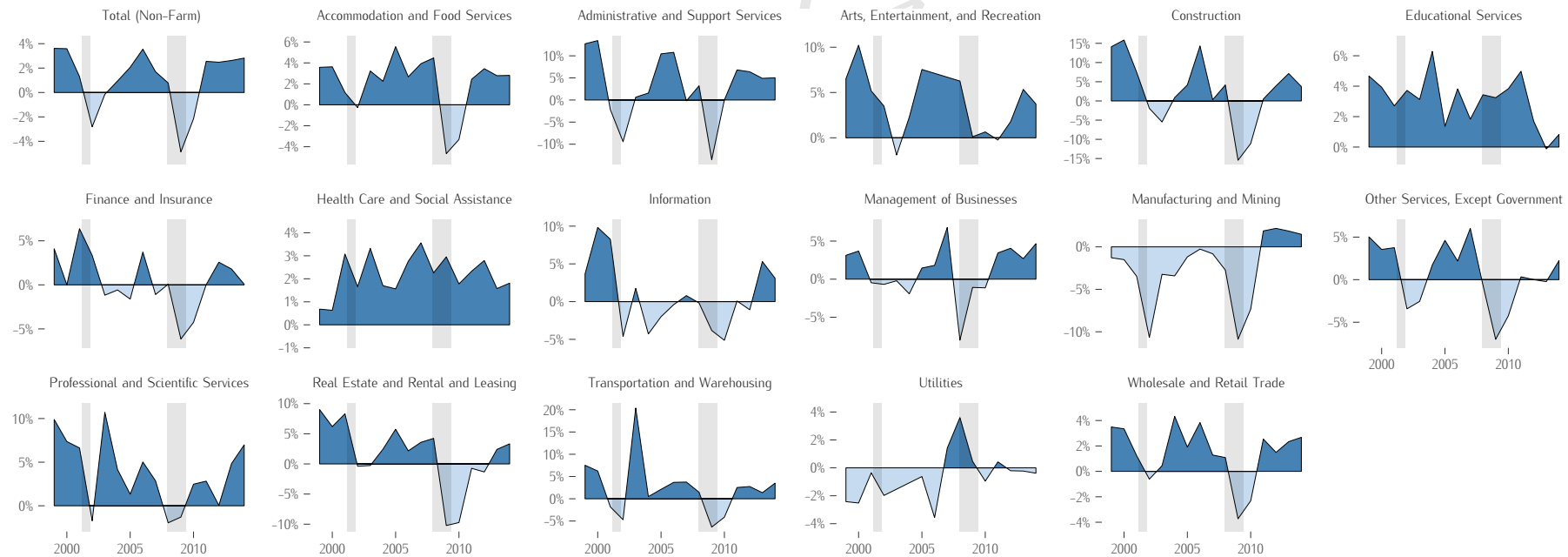


Figure 23: Large Business Employment Growth

## 7.4.4 SMALL BUSINESS SHARES OF EMPLOYMENT (SUSB)

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	50.9%	50.3%	50.0%	49.8%	50.2%	50.7%	51.0%	50.4%	50.3%	49.6%	49.3%	49.1%	49.1%	48.4%	48.3%	48.0%	47.8%
Accommodation and Food Services	61.4%	60.7%	60.3%	60.2%	60.6%	60.8%	61.1%	60.0%	60.2%	59.3%	58.7%	59.0%	59.9%	59.8%	59.9%	60.1%	60.3%
Administrative and Support Services	43.1%	40.4%	38.1%	38.9%	39.6%	40.7%	41.1%	39.0%	37.3%	37.3%	36.8%	38.3%	37.7%	36.4%	35.6%	34.6%	33.9%
Arts, Entertainment, and Recreation	70.0%	69.1%	67.9%	67.0%	66.2%	67.5%	67.7%	66.1%	0.0%	65.4%	64.3%	63.2%	62.8%	62.9%	63.3%	62.3%	61.9%
Construction	88.3%	87.5%	86.3%	85.1%	85.0%	86.0%	86.4%	86.1%	85.4%	85.2%	84.1%	84.1%	84.3%	83.7%	83.3%	82.7%	82.8%
Educational Services	47.0%	47.0%	47.1%	47.4%	47.2%	47.0%	46.0%	45.0%	44.8%	44.9%	44.8%	44.1%	43.2%	42.4%	42.9%	43.6%	43.9%
Finance and Insurance	32.6%	32.1%	32.1%	31.1%	30.6%	31.9%	32.5%	33.1%	32.9%	32.6%	32.2%	32.8%	33.1%	32.6%	31.9%	31.6%	31.8%
Health Care and Social Assistance	46.9%	47.0%	47.5%	47.5%	48.0%	48.2%	48.5%	48.4%	48.3%	47.6%	47.7%	47.1%	46.9%	46.5%	46.0%	45.8%	45.5%
Information	28.7%	28.2%	28.1%	26.5%	25.6%	25.6%	26.2%	26.2%	26.3%	25.8%	26.7%	26.4%	26.5%	26.3%	27.5%	26.7%	26.6%
Management of Businesses	11.3%	11.2%	10.7%	11.3%	13.0%	12.1%	12.1%	11.8%	12.1%	12.3%	12.8%	12.7%	13.1%	12.8%	12.7%	12.2%	12.0%
Manufacturing and Mining	41.5%	41.1%	41.4%	41.7%	42.4%	43.2%	44.0%	44.2%	44.4%	44.2%	44.6%	44.6%	45.1%	45.0%	45.1%	44.5%	44.5%
Other Services, Except Government	86.3%	86.0%	85.9%	85.5%	86.2%	86.4%	86.3%	85.6%	85.4%	84.7%	84.6%	85.2%	85.7%	85.6%	85.8%	85.9%	85.7%
Professional and Scientific Services	66.3%	65.1%	64.7%	64.1%	64.2%	61.9%	61.6%	61.7%	61.6%	61.1%	61.1%	60.7%	59.6%	59.0%	59.5%	58.8%	57.7%
Real Estate and Rental and Leasing	72.2%	70.6%	69.9%	68.6%	68.8%	69.3%	69.1%	68.2%	68.6%	67.6%	65.8%	66.9%	68.7%	68.5%	69.3%	69.0%	68.8%
Transportation and Warehousing	43.5%	42.0%	41.1%	41.5%	41.6%	38.2%	38.3%	38.1%	37.8%	36.8%	36.5%	36.6%	36.9%	36.8%	37.0%	37.0%	36.5%
Utilities	15.2%	15.3%	16.0%	16.2%	17.1%	0.0%	16.9%	17.2%	17.8%	17.7%	17.0%	16.9%	17.2%	17.1%	17.4%	17.3%	17.5%
Wholesale and Retail Trade	50.9%	50.0%	49.5%	49.1%	48.6%	48.5%	47.6%	46.7%	45.9%	45.0%	44.5%	43.6%	43.5%	42.7%	42.6%	42.2%	41.8%

Table 17: Small Business Shares of Employment

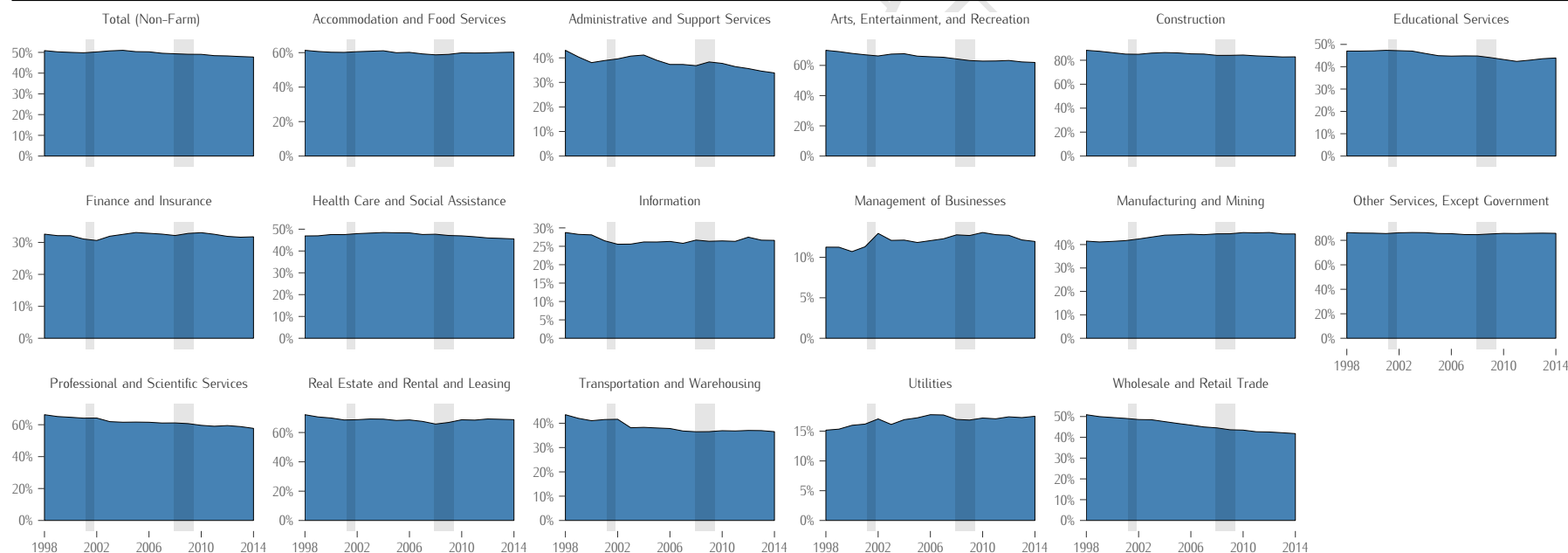


Figure 24: Small Business Shares of Employment (SUSB)



7.4.5 SMALL BUSINESS EMPLOYMENT LEVELS AND SHARES (SUSB)



Figure 25:  
Small Business  
Employment  
Levels and  
Shares

7.5 REAL PAYROLLS (SUSB)

7.6 OVERALL REAL PAYROLLS OVERALL (SUSB)

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	\$4.6T	\$4.8T	\$5.1T	\$5.2T	\$5T	\$5.1T	\$5.2T	\$5.3T	\$5.5T	\$5.6T	\$5.6T	\$5.3T	\$5.3T	\$5.4T	\$5.6T	\$5.7T	\$5.9T
Health Care and Social Assistance	\$545.8B	\$556.2B	\$573.4B	\$605.1B	\$638.8B	\$660.4B	\$683.6B	\$697.6B	\$719.2B	\$747.2B	\$775B	\$800.5B	\$809.4B	\$821.8B	\$842.7B	\$847.2B	\$860.1B
Wholesale and Retail Trade	\$682.1B	\$723B	\$761.1B	\$767.5B	\$746.4B	\$742.3B	\$762.7B	\$777.2B	\$793.8B	\$786.2B	\$792.1B	\$750.5B	\$750.9B	\$766.8B	\$772.8B	\$787.5B	\$811.5B
Manufacturing and Mining	\$868.4B	\$878.8B	\$885.2B	\$835.1B	\$773.4B	\$753.7B	\$756.6B	\$747.1B	\$754.9B	\$745.7B	\$734.5B	\$643.7B	\$641.4B	\$663.7B	\$682.5B	\$688.7B	\$710.6B
Professional and Scientific Services	\$383.2B	\$423B	\$481.1B	\$486.5B	\$471.9B	\$499.6B	\$521.1B	\$540B	\$570.9B	\$595.9B	\$591.1B	\$573.6B	\$583.9B	\$598.4B	\$615.4B	\$639.3B	\$665.2B
Finance and Insurance	\$400.2B	\$425.8B	\$460.9B	\$485.4B	\$476.9B	\$492.9B	\$515.9B	\$528.5B	\$552.1B	\$570.8B	\$572.7B	\$501.3B	\$507.9B	\$519.9B	\$539.7B	\$547.3B	\$567.2B
Administrative and Support Services	\$225.9B	\$248.9B	\$279.5B	\$287.7B	\$271.5B	\$275.1B	\$287.6B	\$302.2B	\$325.1B	\$335.3B	\$344.2B	\$315.4B	\$326.9B	\$343.7B	\$362.4B	\$372.5B	\$395.5B
Management of Businesses	\$242.4B	\$261.5B	\$280.9B	\$276.9B	\$262.1B	\$266.6B	\$271.7B	\$287.8B	\$305.6B	\$327.2B	\$299.6B	\$288.1B	\$303B	\$314.8B	\$326.9B	\$331.6B	\$350.2B
Construction	\$274B	\$297.8B	\$318.8B	\$321.2B	\$316.5B	\$317.4B	\$327.6B	\$346.1B	\$369.6B	\$375.8B	\$365.2B	\$305.7B	\$280.6B	\$279.4B	\$284.7B	\$299.3B	\$319.4B
Information	\$202.6B	\$231.5B	\$278.3B	\$269.1B	\$240.7B	\$256B	\$244.8B	\$240.3B	\$244.8B	\$249.4B	\$256.2B	\$245B	\$240.8B	\$246.5B	\$264.1B	\$278.2B	\$293.8B
Accommodation and Food Services	\$151.2B	\$158.9B	\$166.9B	\$167.2B	\$167.8B	\$174.6B	\$179.7B	\$184.6B	\$191.9B	\$197.2B	\$200.9B	\$195.3B	\$199.5B	\$204.6B	\$210.6B	\$220.2B	\$228.5B
Transportation and Warehousing	\$149.9B	\$158.6B	\$166.9B	\$168.3B	\$162.8B	\$179.1B	\$181B	\$182.6B	\$190.7B	\$196.2B	\$193.2B	\$179.1B	\$179.3B	\$185.4B	\$191.3B	\$197.1B	\$207.4B
Other Services, Except Government	\$132.5B	\$138.6B	\$146B	\$149.7B	\$152.2B	\$148.1B	\$149.6B	\$150.8B	\$153.3B	\$157.3B	\$157B	\$151.6B	\$150.9B	\$151.9B	\$154.7B	\$156.1B	\$161.3B
Educational Services	\$72.2B	\$77.3B	\$82.3B	\$87.2B	\$92.1B	\$94.5B	\$98B	\$97.6B	\$101.5B	\$105.2B	\$111.6B	\$114.5B	\$118.7B	\$121.3B	\$124.6B	\$126.7B	\$129.7B
Real Estate and Rental and Leasing	\$68.8B	\$73.5B	\$78.7B	\$83.2B	\$83.5B	\$86B	\$90.5B	\$96.8B	\$100.5B	\$99.5B	\$97.4B	\$88.3B	\$86.5B	\$88.5B	\$92.3B	\$94B	\$99.6B
Arts, Entertainment, and Recreation	\$49.7B	\$53.6B	\$57.4B	\$59.9B	\$61.1B	\$60.4B	\$61.9B	\$62.6B	\$65.2B	\$67.5B	\$68.4B	\$66.6B	\$67B	\$67B	\$68.3B	\$69.2B	\$72.2B
Utilities	\$52.6B	\$53.5B	\$54B	\$54.5B	\$53.6B	\$55.9B	\$54.7B	\$54.8B	\$54.7B	\$57.2B	\$60.3B	\$59B	\$59.6B	\$61B	\$61.1B	\$61.3B	\$61.6B

Table 18: Real Private Non-Farm Payrolls

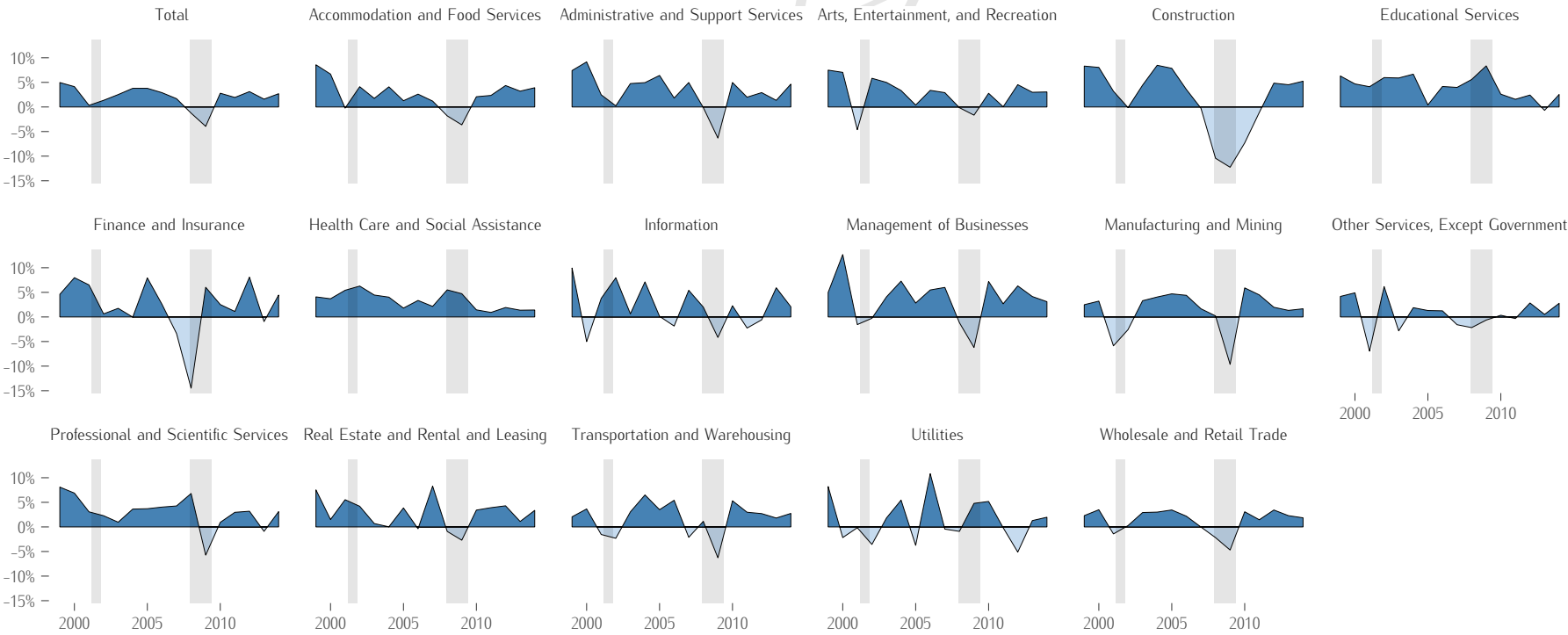


Figure 26: Real Payroll Growth

## 7.6.1 REAL SMALL BUSINESS PAYROLL

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	\$2.1T	\$2.2T	\$2.3T	\$2.3T	\$2.3T	\$2.3T	\$2.3T	\$2.4T	\$2.4T	\$2.5T	\$2.4T	\$2.3T	\$2.3T	\$2.3T	\$2.3T	\$2.4T	\$2.4T
Wholesale and Retail Trade	\$380.1B	\$391.4B	\$405.5B	\$402.3B	\$393.3B	\$385.6B	\$390.5B	\$392.6B	\$395.9B	\$389.9B	\$382.3B	\$349.6B	\$349.3B	\$353.5B	\$361B	\$363.5B	\$371.4B
Professional and Scientific Services	\$247.8B	\$265.9B	\$297.1B	\$298.5B	\$291.4B	\$289.5B	\$300B	\$310.6B	\$324.3B	\$334.8B	\$326.9B	\$308.7B	\$310.7B	\$317.9B	\$328.8B	\$333.3B	\$344.5B
Health Care and Social Assistance	\$252.4B	\$258.5B	\$270.1B	\$283.8B	\$297.3B	\$305.2B	\$313.9B	\$318.7B	\$323.2B	\$327.5B	\$337B	\$341.7B	\$342.1B	\$340.3B	\$340B	\$336B	\$338.2B
Manufacturing and Mining	\$306.5B	\$306.8B	\$311.4B	\$297.8B	\$282.6B	\$278.7B	\$284.4B	\$283B	\$286.1B	\$281.1B	\$281B	\$242.3B	\$246.9B	\$253.3B	\$261.2B	\$257.8B	\$266.4B
Construction	\$234B	\$252.8B	\$264.5B	\$263.7B	\$259.5B	\$262.7B	\$271.8B	\$285.2B	\$301.2B	\$305.3B	\$290.7B	\$241.3B	\$222.8B	\$220.3B	\$223B	\$234.2B	\$249.8B
Finance and Insurance	\$112.1B	\$115.6B	\$124.2B	\$126.8B	\$130.9B	\$138.2B	\$142.2B	\$147B	\$152.6B	\$155.8B	\$152.6B	\$144.6B	\$142.8B	\$141.5B	\$147.8B	\$143.4B	\$149.3B
Other Services, Except Government	\$110.5B	\$115.5B	\$120.1B	\$123.2B	\$126.2B	\$123B	\$123.8B	\$124B	\$125.3B	\$127.7B	\$127.1B	\$123.6B	\$123.8B	\$124.3B	\$126.4B	\$127.6B	\$131.2B
Administrative and Support Services	\$101B	\$106.1B	\$113.8B	\$115.5B	\$109.2B	\$111.5B	\$117.5B	\$119.6B	\$122.9B	\$125.6B	\$126.8B	\$116.4B	\$117.7B	\$119.5B	\$123.4B	\$123.4B	\$127.8B
Accommodation and Food Services	\$85.6B	\$88.4B	\$91.5B	\$92.3B	\$94B	\$95.9B	\$99.3B	\$100.4B	\$103.6B	\$105.3B	\$107.4B	\$105.6B	\$108.7B	\$112B	\$115.8B	\$121.5B	\$127.7B
Transportation and Warehousing	\$55.3B	\$57.1B	\$58.5B	\$58.1B	\$57.1B	\$58.2B	\$60.3B	\$62B	\$64.1B	\$64.3B	\$63.8B	\$57.9B	\$58.7B	\$60.8B	\$63.4B	\$63.9B	\$66.2B
Real Estate and Rental and Leasing	\$47.9B	\$50.1B	\$52.9B	\$54.8B	\$55.7B	\$57.2B	\$59.7B	\$63.3B	\$65.1B	\$64B	\$60.5B	\$55.8B	\$55.8B	\$56B	\$59.7B	\$60.5B	\$64B
Information	\$50.9B	\$56.4B	\$68.9B	\$60B	\$54.4B	\$56.5B	\$56B	\$55.1B	\$54.7B	\$55.1B	\$58.3B	\$54.1B	\$54.2B	\$54.6B	\$59B	\$60.2B	\$63.6B
Educational Services	\$30.3B	\$32.5B	\$34.7B	\$36.7B	\$38.4B	\$39.5B	\$40.1B	\$39.1B	\$40.2B	\$41.8B	\$43.9B	\$43.9B	\$44.7B	\$45.2B	\$46.9B	\$48B	\$49.5B
Arts, Entertainment, and Recreation	\$36.9B	\$39.2B	\$40.5B	\$42.4B	\$42.6B	\$42.6B	\$44B	\$43.3B	\$0	\$45.4B	\$45.7B	\$43.9B	\$44.4B	\$44B	\$45.1B	\$44.3B	\$46B
Management of Businesses	\$20.7B	\$22.3B	\$22.5B	\$23.3B	\$25.5B	\$24.7B	\$24.5B	\$24.9B	\$26.5B	\$28.6B	\$27.6B	\$27.2B	\$29.3B	\$29.1B	\$30.6B	\$29B	\$30.3B
Utilities	\$5.9B	\$6B	\$5.9B	\$6.1B	\$6.4B	\$0	\$6.7B	\$6.8B	\$6.9B	\$7.5B	\$7.4B	\$7.4B	\$7.7B	\$7.8B	\$8B	\$7.8B	\$8B

Table 19: Real Private Non-Farm Small Business Payrolls

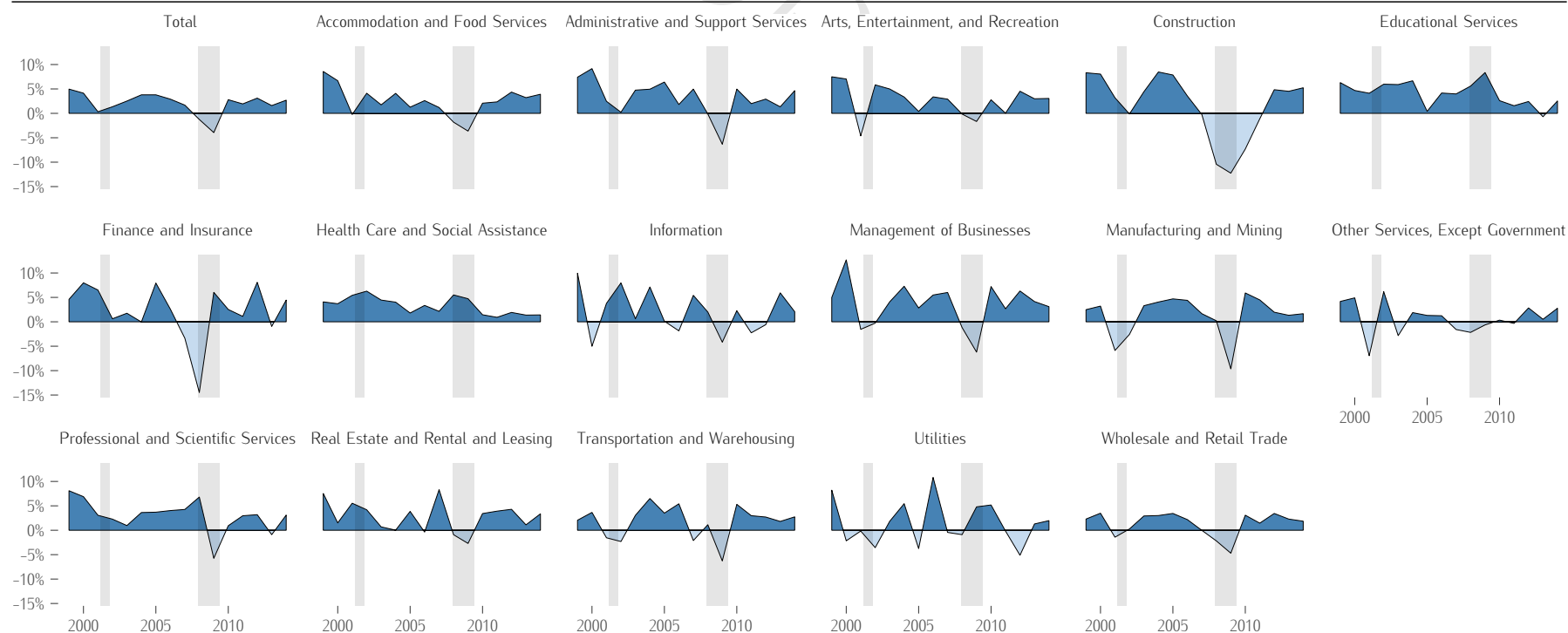


Figure 27: Real Small Business Payroll Growth

## 7.6.2 REAL LARGE BUSINESS PAYROLL

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	\$2.5T	\$2.7T	\$2.9T	\$2.9T	\$2.8T	\$2.8T	\$2.9T	\$2.9T	\$3.1T	\$3.2T	\$3.2T	\$3T	\$3T	\$3.2T	\$3.3T	\$3.4T	\$3.5T
Health Care and Social Assistance	\$293.4B	\$297.7B	\$303.3B	\$321.4B	\$341.5B	\$355.2B	\$369.7B	\$378.9B	\$396B	\$419.7B	\$438B	\$458.8B	\$467.4B	\$481.5B	\$502.7B	\$511.2B	\$522B
Manufacturing and Mining	\$561.9B	\$572B	\$573.8B	\$537.3B	\$490.8B	\$475B	\$472.2B	\$464.2B	\$468.8B	\$464.6B	\$453.5B	\$401.4B	\$394.4B	\$410.4B	\$421.3B	\$430.9B	\$444.2B
Wholesale and Retail Trade	\$302.1B	\$331.6B	\$355.6B	\$365.2B	\$353.1B	\$356.8B	\$372.2B	\$384.7B	\$397.9B	\$396.3B	\$409.8B	\$401B	\$401.6B	\$413.3B	\$411.8B	\$424B	\$440.1B
Finance and Insurance	\$288.1B	\$310.2B	\$336.7B	\$358.6B	\$346B	\$354.7B	\$373.7B	\$381.5B	\$399.4B	\$415B	\$420.1B	\$356.8B	\$365.1B	\$378.4B	\$391.9B	\$403.9B	\$417.9B
Professional and Scientific Services	\$135.4B	\$157.2B	\$184B	\$188B	\$180.6B	\$210.1B	\$221.1B	\$229.4B	\$246.6B	\$261.2B	\$264.3B	\$264.9B	\$273.2B	\$280.4B	\$286.6B	\$306B	\$320.7B
Management of Businesses	\$221.7B	\$239.2B	\$258.4B	\$253.6B	\$236.6B	\$241.9B	\$247.1B	\$262.9B	\$279.1B	\$298.6B	\$272B	\$260.9B	\$273.7B	\$285.7B	\$296.3B	\$302.6B	\$320B
Administrative and Support Services	\$124.9B	\$142.8B	\$165.7B	\$172.2B	\$162.4B	\$163.6B	\$170.1B	\$182.6B	\$202.2B	\$209.8B	\$217.5B	\$199B	\$209.2B	\$224.2B	\$239B	\$249.2B	\$267.7B
Information	\$151.7B	\$175B	\$209.4B	\$209.1B	\$186.3B	\$199.5B	\$188.8B	\$185.2B	\$190.1B	\$194.3B	\$197.9B	\$190.9B	\$186.6B	\$191.9B	\$205B	\$218B	\$230.2B
Transportation and Warehousing	\$94.6B	\$101.5B	\$108.4B	\$110.2B	\$105.8B	\$120.9B	\$120.7B	\$120.6B	\$126.6B	\$131.9B	\$129.4B	\$121.1B	\$120.6B	\$124.6B	\$127.8B	\$133.2B	\$141.2B
Accommodation and Food Services	\$65.6B	\$70.6B	\$75.4B	\$74.9B	\$73.8B	\$78.7B	\$80.4B	\$84.2B	\$88.4B	\$91.8B	\$93.5B	\$89.8B	\$90.8B	\$92.6B	\$94.8B	\$98.7B	\$100.7B
Educational Services	\$41.9B	\$44.8B	\$47.6B	\$50.5B	\$53.6B	\$55B	\$57.9B	\$58.6B	\$61.3B	\$63.4B	\$67.7B	\$70.6B	\$74B	\$76.1B	\$77.7B	\$78.7B	\$80.2B
Construction	\$40B	\$45B	\$54.4B	\$57.5B	\$57B	\$54.6B	\$55.8B	\$60.9B	\$68.4B	\$70.5B	\$74.5B	\$64.4B	\$57.7B	\$59.1B	\$61.7B	\$65.1B	\$69.7B
Utilities	\$46.7B	\$47.5B	\$48.1B	\$48.4B	\$47.1B	\$0	\$47.9B	\$47.9B	\$47.9B	\$49.7B	\$52.8B	\$51.6B	\$51.8B	\$53.2B	\$53B	\$53.4B	\$53.6B
Real Estate and Rental and Leasing	\$21B	\$23.4B	\$25.7B	\$28.4B	\$27.8B	\$28.8B	\$30.8B	\$33.5B	\$35.4B	\$35.5B	\$36.9B	\$32.5B	\$30.8B	\$32.5B	\$32.7B	\$33.4B	\$35.6B
Other Services, Except Government	\$22B	\$23B	\$25.9B	\$26.6B	\$25.9B	\$25.1B	\$25.8B	\$26.9B	\$28B	\$29.6B	\$29.9B	\$28.1B	\$27.1B	\$27.7B	\$28.3B	\$28.4B	\$30.1B
Arts, Entertainment, and Recreation	\$12.8B	\$14.4B	\$17B	\$17.6B	\$18.5B	\$17.8B	\$17.9B	\$19.3B	\$0	\$22.1B	\$22.6B	\$22.7B	\$22.6B	\$23B	\$23.1B	\$24.9B	\$26.2B

Table 20: Real Private Non-Farm Large Business Payrolls

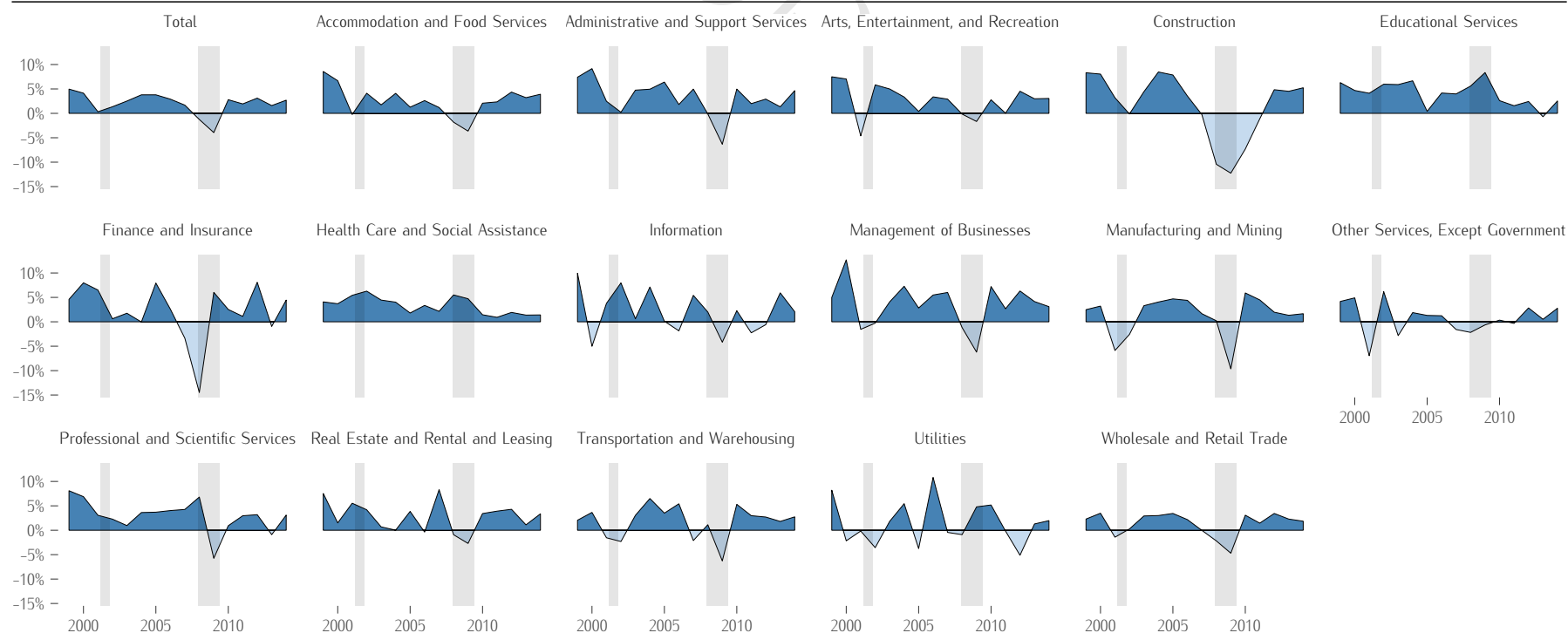


Figure 28: Real Large Business Payroll Growth

7.7 BUSINESSES (SUSB)

7.7.1 OVERALL NUMBER OF BUSINESSES

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	5.6M	5.6M	5.6M	5.6M	5.7M	5.7M	5.9M	6M	6M	6M	5.9M	5.7M	5.7M	5.7M	5.7M	5.8M	5.8M
Wholesale and Retail Trade	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1M	1M	989.5K	978.1K	963.4K	965.8K	964.5K	960.7K
Professional and Scientific Services	641.6K	654.5K	670.1K	682.3K	708K	714.8K	734.9K	757.2K	772K	787.2K	771.7K	761.6K	766.2K	765.8K	772.7K	781.3K	790.2K
Other Services, Except Government	659.3K	656.9K	661.7K	658.4K	675.2K	669.7K	671.3K	676.4K	672.1K	677.5K	667K	660.4K	663.6K	660.9K	667.2K	671.8K	675.9K
Construction	686.2K	691.5K	701.9K	691.1K	701.4K	722.8K	751.1K	777.7K	791.6K	799.8K	761.5K	700.8K	670.2K	645.2K	641K	646.4K	654.6K
Health Care and Social Assistance	527.7K	524.3K	532K	541K	560.1K	575.1K	588.2K	599.4K	605.8K	615.1K	621K	625.9K	631.4K	633.6K	640.7K	646.8K	651.2K
Accommodation and Food Services	418.3K	411.6K	412.8K	416.5K	427.5K	438.2K	453.4K	463K	467.1K	477K	476.9K	474.7K	482.3K	486.4K	495.3K	504.2K	508.9K
Administrative and Support Services	302.9K	299.4K	299.3K	308.5K	289.3K	299.4K	310.3K	320.3K	323.3K	328.7K	332.2K	323.7K	322.8K	321.1K	327.2K	329.2K	331.5K
Real Estate and Rental and Leasing	242.5K	242.8K	244.5K	247.6K	259.8K	270.1K	282.8K	300.5K	306K	301.1K	283.6K	269.8K	267.1K	263K	270K	276.5K	282.8K
Manufacturing and Mining	338.4K	330.7K	325.1K	324.5K	316.3K	313.8K	312.1K	308K	306.6K	307.4K	302.9K	286.9K	279.4K	276.3K	278.5K	273.8K	274.7K
Finance and Insurance	222K	223.5K	227K	230.6K	237.9K	244.7K	252K	260K	263K	264.2K	253.4K	242.4K	237.9K	233.6K	234.8K	234.8K	236K
Transportation and Warehousing	154.7K	155.2K	157.3K	157.2K	159.4K	161.9K	164.8K	169.1K	171.9K	174.3K	169.9K	163.2K	162.3K	164.9K	168.1K	169.7K	173.6K
Arts, Entertainment, and Recreation	96.3K	96K	97.1K	99.1K	103K	106.5K	111.3K	114.1K	115K	116.7K	115.4K	113.7K	113.9K	113.9K	115K	117K	119.4K
Educational Services	58.5K	59.6K	60.9K	63.7K	65.9K	69K	71.2K	72.4K	73.8K	77.1K	78.6K	78.8K	79.7K	80.7K	84.5K	86.5K	87.9K
Information	75.3K	77.1K	79.6K	77.5K	77.6K	75.8K	75.3K	75.3K	75K	75.7K	72.7K	70.6K	70.1K	69.4K	71.1K	71.9K	73.2K
Management of Businesses	26.4K	26.9K	26.8K	26.8K	28.2K	27.7K	26.6K	26.5K	26.8K	28.1K	27.6K	27.5K	27.5K	27K	26.8K	26.7K	26.9K
Utilities	6.6K	6.7K	7K	7.3K	7.6K	7.1K	6.7K	6.7K	6.6K	6.1K	5.8K	5.7K	5.8K	5.8K	6K	5.9K	5.9K

Table 21: Overall Businesses



Figure 29: Growth in the Number of Overall Businesses

## 7.7.2 NUMBER OF SMALL BUSINESSES

Table 22: Small Businesses

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	5.5M	5.6M	5.6M	5.6M	5.7M	5.7M	5.8M	5.9M	6M	6M	5.9M	5.7M	5.7M	5.6M	5.7M	5.7M	5.8M
Wholesale and Retail Trade	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1.1M	1M	1M	984.4K	973.1K	958.5K	960.7K	959.3K	955.4K
Professional and Scientific Services	639.5K	652.2K	667.8K	679.9K	705.5K	711.9K	732K	754.3K	769K	784.1K	768.7K	758.7K	763.4K	762.8K	769.5K	778.1K	786.9K
Other Services, Except Government	658.1K	655.6K	660.5K	657.2K	674K	668.3K	670K	675K	670.7K	676.1K	665.6K	659K	662.3K	659.6K	665.8K	670.5K	674.5K
Construction	685.4K	690.5K	700.9K	690.1K	700.5K	721.9K	750.1K	776.7K	790.5K	798.7K	760.3K	699.8K	669.3K	644.3K	640.1K	645.5K	653.6K
Health Care and Social Assistance	524.3K	520.9K	528.6K	537.4K	556.5K	571.4K	584.5K	595.6K	602K	611.2K	617K	621.9K	627.4K	629.5K	636.5K	642.6K	647K
Accommodation and Food Services	416.7K	410K	411.1K	414.8K	425.8K	436.5K	451.7K	461.2K	465.3K	475.1K	474.9K	472.8K	480.3K	484.4K	493.2K	502.1K	506.7K
Administrative and Support Services	300K	296.3K	296.1K	305.3K	286.2K	296K	306.9K	316.8K	319.6K	325K	328.5K	320.3K	319.5K	317.7K	323.5K	325.5K	327.7K
Real Estate and Rental and Leasing	241.2K	241.6K	243.2K	246.4K	258.6K	268.9K	281.6K	299.3K	304.8K	299.8K	282.4K	268.6K	266K	261.9K	268.8K	275.3K	281.6K
Manufacturing and Mining	333.2K	325.6K	320.1K	319.6K	311.9K	309.4K	307.7K	303.6K	302.2K	302.9K	298.5K	282.9K	275.7K	272.5K	274.5K	269.7K	270.5K
Finance and Insurance	220.4K	221.9K	225.4K	229K	236.1K	242.9K	250.3K	258.3K	261.3K	262.5K	251.7K	240.8K	236.4K	232K	233.2K	233.2K	234.3K
Transportation and Warehousing	153.6K	154K	156.2K	156.1K	158.2K	159.7K	162.7K	166.9K	169.8K	172.1K	167.7K	161K	160.2K	162.8K	165.9K	167.5K	171.3K
Arts, Entertainment, and Recreation	95.8K	95.5K	96.5K	98.5K	102.5K	105.9K	110.7K	113.5K	114.4K	116K	114.6K	113K	113.1K	113.1K	114.2K	116.2K	118.6K
Educational Services	57.5K	58.7K	60K	62.7K	64.9K	67.9K	70.1K	71.3K	72.7K	75.9K	77.4K	77.6K	78.4K	79.4K	83.2K	85.2K	86.5K
Information	74.3K	76K	78.5K	76.3K	76.5K	74.6K	74.1K	74.1K	73.9K	74.6K	71.7K	69.6K	69.1K	68.4K	70K	70.8K	72K
Management of Businesses	19.9K	20.3K	20.1K	20.1K	21.5K	20.9K	19.8K	19.5K	19.7K	20.8K	20.2K	20.2K	20.2K	19.6K	19.3K	19.1K	19.2K
Utilities	6.4K	6.4K	6.8K	7.1K	7.4K	6.9K	6.5K	6.5K	6.4K	5.9K	5.6K	5.6K	5.6K	5.6K	5.8K	5.7K	5.7K

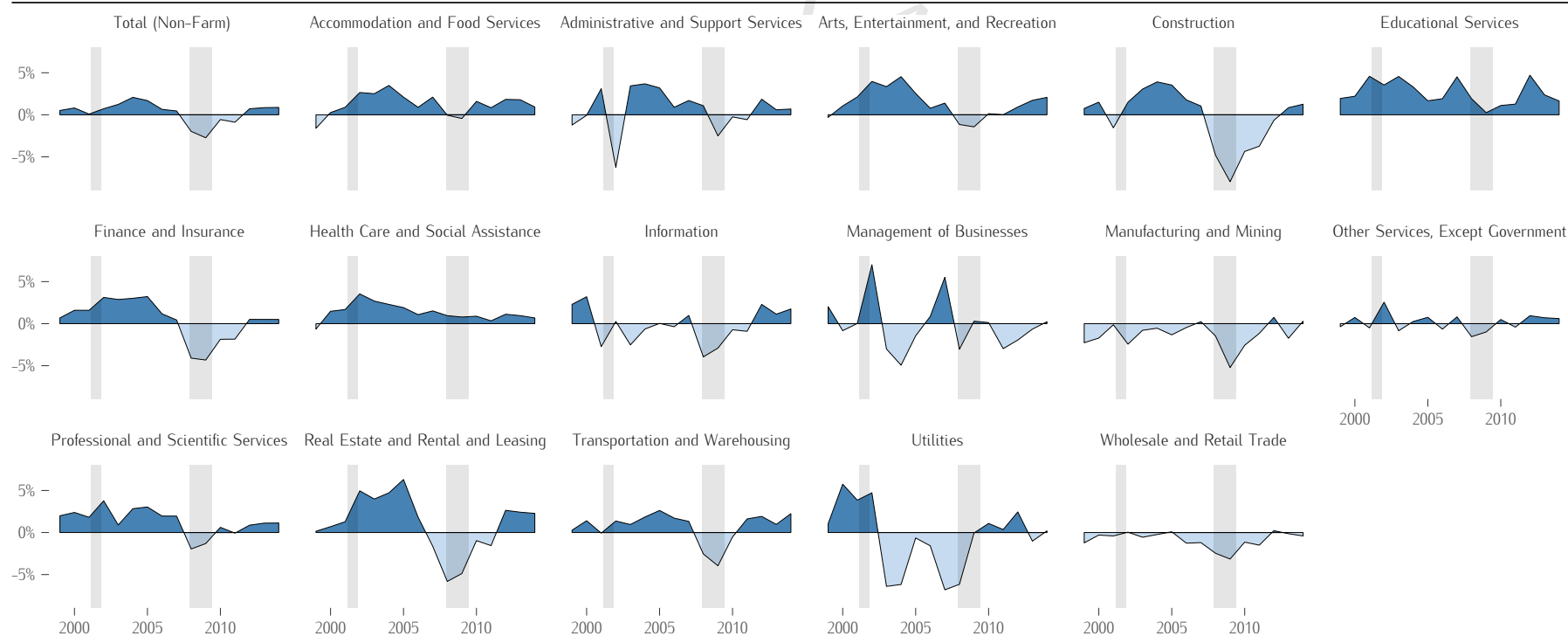


Figure 30: Growth in the Number of Small Businesses

## 7.7.3 NUMBER OF LARGE BUSINESSES

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	16.3K	16.6K	17.1K	17.3K	16.8K	16.8K	17K	17.4K	18K	18.2K	18.4K	17.4K	17.1K	17.6K	18.1K	18.6K	19K
Management of Businesses	6.6K	6.6K	6.7K	6.7K	6.7K	6.8K	6.8K	7K	7.1K	7.3K	7.4K	7.3K	7.2K	7.4K	7.6K	7.5K	7.7K
Wholesale and Retail Trade	5.7K	5.7K	5.7K	5.7K	5.5K	5.4K	5.3K	5.3K	5.4K	5.5K	5.4K	5.1K	4.9K	4.9K	5.1K	5.2K	5.3K
Health Care and Social Assistance	3.4K	3.4K	3.5K	3.5K	3.6K	3.7K	3.7K	3.8K	3.8K	3.9K	4K	4K	4.1K	4.1K	4.2K	4.2K	4.2K
Manufacturing and Mining	5.2K	5.1K	5K	4.9K	4.5K	4.4K	4.4K	4.3K	4.4K	4.4K	4.4K	4K	3.8K	3.9K	4K	4.1K	4.1K
Administrative and Support Services	2.9K	3K	3.2K	3.2K	3.1K	3.3K	3.3K	3.5K	3.7K	3.7K	3.6K	3.4K	3.3K	3.4K	3.7K	3.7K	3.8K
Professional and Scientific Services	2.2K	2.3K	2.3K	2.4K	2.5K	2.9K	2.9K	2.9K	3K	3.1K	3K	2.9K	2.9K	2.9K	3.2K	3.2K	3.2K
Transportation and Warehousing	1.1K	1.1K	1.1K	1.1K	1.2K	2.1K	2.1K	2.1K	2.1K	2.2K	2.3K	2.2K	2.1K	2.1K	2.2K	2.2K	2.3K
Accommodation and Food Services	1.6K	1.6K	1.6K	1.7K	1.7K	1.7K	1.8K	1.8K	1.8K	1.9K	2K	2K	2K	2K	2.1K	2.2K	2.2K
Finance and Insurance	1.6K	1.7K	1.6K	1.6K	1.8K	1.7K	1.7K	1.7K	1.7K	1.7K	1.7K	1.6K	1.6K	1.6K	1.7K	1.7K	1.7K
Other Services, Except Government	1.2K	1.2K	1.2K	1.3K	1.3K	1.4K	1.4K	1.4K	1.4K	1.4K	1.4K	1.4K	1.3K	1.3K	1.4K	1.3K	1.3K
Educational Services	926	951	980	989	1K	1.1K	1.1K	1.1K	1.1K	1.2K	1.2K	1.2K	1.2K	1.3K	1.3K	1.3K	1.3K
Real Estate and Rental and Leasing	1.3K	1.3K	1.3K	1.2K	1.3K	1.3K	1.2K	1.2K	1.2K	1.2K	1.2K	1.2K	1.1K	1.1K	1.2K	1.2K	1.2K
Information	969	1K	1.1K	1.1K	1.1K	1.2K	1.1K	1.1K	1.1K	1.1K	1.1K	1.1K	1K	1K	1.1K	1.1K	1.2K
Construction	877	947	1K	1K	993	945	978	1K	1.1K	1.1K	1.1K	994	901	907	896	954	979
Arts, Entertainment, and Recreation	531	552	575	579	590	628	623	650	672	691	748	747	728	738	775	796	785
Utilities	232	226	215	214	200	203	194	201	197	199	197	193	190	188	199	194	191

Table 23: Large Businesses

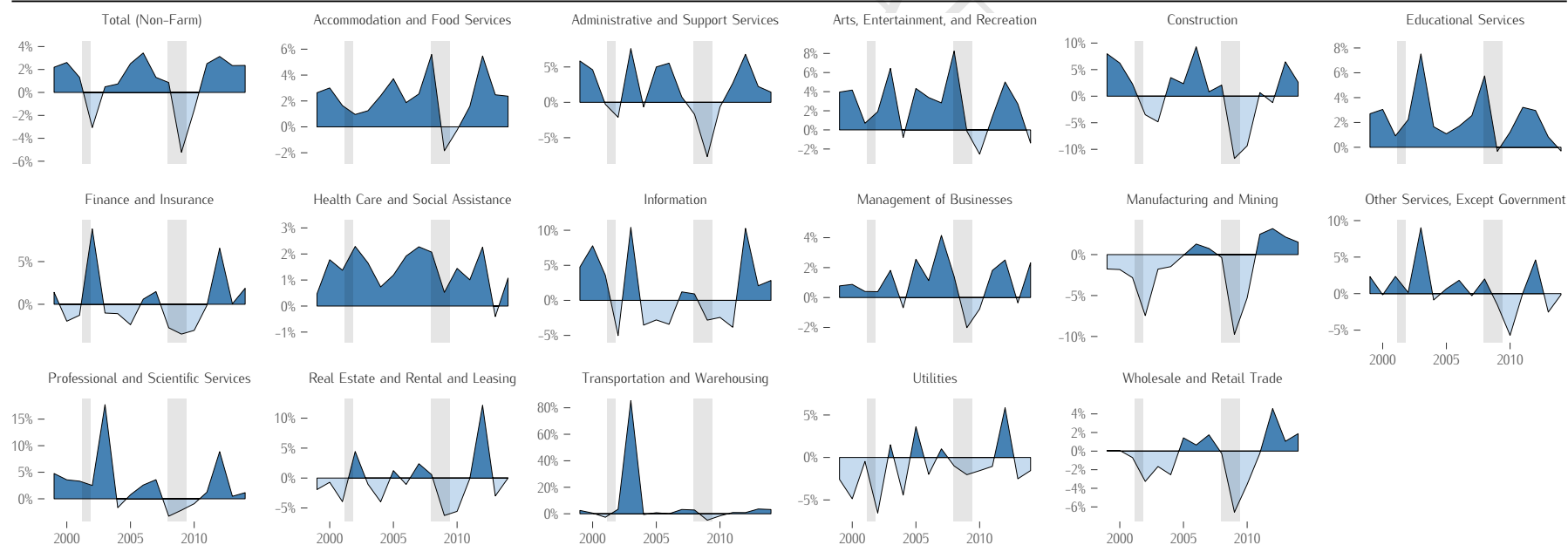


Figure 31: Growth in the Number of Large Businesses

## 7.7.4 SMALL BUSINESS SHARE OF THE NUMBER OF BUSINESS ENTITIES

Industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total (Non-Farm)	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%
Accommodation and Food Services	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%
Administrative and Support Services	99.1%	99.0%	98.9%	99.0%	98.9%	98.9%	98.9%	98.9%	98.9%	98.9%	98.9%	99.0%	99.0%	98.9%	98.9%	98.9%	98.9%
Arts, Entertainment, and Recreation	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.3%	99.4%	99.4%	99.3%	99.3%	99.3%
Construction	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Educational Services	98.4%	98.4%	98.4%	98.4%	98.5%	98.4%	98.4%	98.5%	98.5%	98.5%	98.4%	98.4%	98.4%	98.4%	98.4%	98.5%	98.5%
Finance and Insurance	99.3%	99.3%	99.3%	99.3%	99.3%	99.3%	99.3%	99.4%	99.4%	99.4%	99.3%	99.3%	99.3%	99.3%	99.3%	99.3%	99.3%
Health Care and Social Assistance	99.4%	99.3%	99.3%	99.3%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.4%	99.3%	99.4%	99.4%
Information	98.7%	98.7%	98.6%	98.5%	98.6%	98.4%	98.5%	98.5%	98.6%	98.6%	98.5%	98.5%	98.5%	98.6%	98.4%	98.4%	98.4%
Management of Businesses	75.2%	75.4%	75.1%	75.0%	76.2%	75.3%	74.5%	73.7%	73.6%	73.9%	73.0%	73.5%	73.7%	72.7%	71.8%	71.8%	71.3%
Manufacturing and Mining	98.5%	98.5%	98.5%	98.5%	98.6%	98.6%	98.6%	98.6%	98.6%	98.6%	98.5%	98.6%	98.6%	98.6%	98.6%	98.5%	98.5%
Other Services, Except Government	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%
Professional and Scientific Services	99.7%	99.7%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%
Real Estate and Rental and Leasing	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.5%	99.6%	99.6%
Transportation and Warehousing	99.3%	99.3%	99.3%	99.3%	99.3%	98.7%	98.7%	98.7%	98.8%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%	98.7%
Utilities	96.5%	96.6%	96.9%	97.1%	97.4%	97.2%	97.1%	97.0%	97.0%	96.7%	96.6%	96.6%	96.7%	96.8%	96.7%	96.7%	96.8%
Wholesale and Retail Trade	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%	99.5%

Table 24: Small Business Shares of All Businesses



7.8 ANNUALIZED BUSINESS EMPLOYMENT DYNAMICS (BED) OPENINGS AND CLOSINGS STATISTICS

7.8.1 ANNUALIZED NET QUARTERLY OPENINGS

industry	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	778K	486.3K	586.3K	166.9K	385.6K	450K	601.2K	819K	710.9K	410.9K	-268.4K	-948K	-269.2K	202.9K	921.3K	457.3K	597.8K
Total_adjusted	143.1K	80.2K	85.6K	17.6K	83.3K	81.6K	103.3K	144.3K	89.7K	64.9K	-97.3K	-149.1K	-13.6K	38.2K	184K	74.5K	98.3K
Accommodation and Food Services	7.7K	4.6K	10.2K	4.6K	17.9K	15.3K	12.8K	16.1K	15.7K	12.1K	-2.7K	2K	9.1K	6.5K	13.5K	9K	-4.6K
Administrative and Support Services	20.9K	9.1K	14.1K	9.6K	11.4K	7.8K	15.1K	17.7K	16.8K	13.6K	-8.5K	-19.2K	3.1K	8.4K	12.6K	5.8K	-2.5K
Agriculture	1.9K	-362	-1.3K	-1.4K	-591	915	-371	-602	-1.2K	304	-1.2K	-1.7K	938	1.7K	2.1K	3K	1.5K
Arts, Entertainment, and Recreation	4.3K	2.5K	4.1K	3.6K	6.2K	6.7K	6.6K	5.8K	2.6K	3.4K	-1.5K	-5.6K	708	967	4.5K	3.1K	-263
Construction	45.3K	27K	18.6K	11.9K	17.2K	22.2K	46.6K	49.9K	21.1K	-22.3K	-111.8K	-126.7K	-39.3K	-11.9K	1.1K	12.4K	6.4K
Educational Services	4K	3.9K	5.3K	3.6K	4.7K	4.1K	4.9K	5.2K	4.6K	5.5K	3.3K	889	3.7K	5.3K	5K	2.6K	1.3K
Finance and Insurance	15.5K	10.1K	3.4K	7.5K	13.8K	14.8K	15.3K	20.5K	11.3K	-7.6K	-27.5K	-24.5K	-13K	-4.6K	397	1.6K	-5K
Health Care and Social Assistance	72K	50.9K	31.9K	67.5K	75.5K	80.7K	35.1K	72.6K	46.9K	81.3K	77.3K	78.7K	12.3K	10.2K	217.1K	15.1K	23.2K
Information	7.2K	11.1K	15.8K	-9.1K	-5.6K	-5K	-2.2K	1.9K	717	1.9K	-1.6K	-6.7K	-1.3K	66	1.6K	1.8K	252
Management of Businesses	2.2K	533	26	-3.2K	-541	367	1.8K	1.1K	1K	1.4K	-636	-3.5K	1K	254	947	565	-769
Manufacturing and Mining	-796	-7K	-7.6K	-20K	-15.3K	-14.6K	-8.8K	-5.5K	-3.3K	-3.9K	-14.9K	-31.7K	-8K	-2.4K	-701	-371	-2.5K
Other Services, Except Government	6K	2.8K	2.3K	-1.8K	6.8K	2.9K	1.1K	6.1K	2.2K	4K	-10.8K	-12.7K	556	5.9K	9K	3.1K	-5.1K
Professional and Scientific Services	68.8K	42.1K	53.7K	12.2K	29K	19.7K	44.7K	61K	55.4K	48.5K	5.9K	-32.5K	23.4K	35.4K	37.5K	22.3K	-7.2K
Real Estate and Rental and Leasing	6.9K	800	3.4K	4.6K	9.2K	13.6K	16.8K	25K	4.4K	-12.3K	-31.5K	-21.8K	-14K	-2.9K	6K	9.2K	-2.4K
Transportation and Warehousing	9.2K	4.3K	1.2K	-5.5K	-1.9K	-2.3K	5K	4.6K	6.2K	251	-9.6K	-15.1K	1.1K	7.4K	4.1K	1.9K	795
Wholesale and Retail Trade	6.8K	-15.4K	5.2K	-30.9K	-3.1K	-11.5K	1.6K	13K	2.4K	3.2K	-56.1K	-85.6K	-10K	-2.9K	2.4K	-9.2K	-36K

Table 25: Annualized Net Quarterly Openings (BED)



Figure 32: Annualized Net Quarterly Openings (BED)

## 7.8.2 ANNUALIZED NET QUARTERLY OPENINGS CALCULATIONS

The Bureau of Labor Statistics generates its Business Employment Dynamics (BED) statistics based on its Quarterly Census of Employment and Wages (QCEW) program to provide quarterly series measuring births, deaths, job gains and losses, establishment openings and closings, and related statistics.<sup>31</sup>

The BED series has notable limitations. For example, industry-level series are not available at the state-level and standard 2-digit NAICS encoded industry data for establishment openings, closings, births, or deaths are not available. Instead, BLS uses its own custom [NAICS Supersector Aggregations](#). Supersectors group various 2-digit NAICS industries, such as Education and Health Services, into composite entities. Birth and death statistics are only available for supersectors. Fortunately, BED provides openings and closings data for standard 3-digit NAICS industries.<sup>32</sup> The traditionally defined 2-digit NAICS industries were generated by aggregating the BED 3-digit NAICS series according to the 2-digit NAICS Census definitions.<sup>33</sup>

	Births and Openings Correlation	Deaths and Closings Correlation
Construction	0.63	0.94
Education and Health Services	0.92	0.87
Financial Activities	0.73	0.94
Goods-Producing	0.76	0.94
Information	0.85	0.90
Leisure and Hospitality	0.69	0.73
Manufacturing	0.94	0.91
Natural Resources and Mining	0.63	0.51
Other Services	0.36	0.61
Professional and Business Services	0.91	0.97
Retail Trade	0.97	0.96
Service-Providing	0.87	0.94
Total Private	0.74	0.93
Transportation and Warehousing	0.42	0.75
Utilities	1.00	1.00
Wholesale Trade	0.84	0.90

## 7.8.3 INDUSTRY DEFINITIONS

Industry	NAICS 2	NAICS 3	Long Definition
Accommodation and Food Services	72	721 722	The Accommodation and Food Services sector comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption. The sector includes both accommodation and food services establishments because the two activities are often combined at the same establishment.
Administrative and Support Services	56	561 562	The Administrative and Support and Waste Management and Remediation Services sector comprises establishments performing routine support activities for the day-to-day operations of other organizations. These essential activities are often undertaken in-house by establishments in many sectors of the economy. The establishments in this sector specialize in one or more of these support activities and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services.
Arts, Entertainment, and Recreation	71	711 712 713	The Arts, Entertainment, and Recreation sector includes a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons. Some establishments that provide cultural, entertainment, or recreational facilities and services are classified in other sectors. This sector comprises (1) establishments that are involved in producing, promoting, or participating in live performances, events, or exhibits intended for public viewing; (2) establishments that preserve and exhibit objects and sites of historical, cultural, or educational interest; and (3) establishments that operate facilities or provide services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests.
Construction	23	236 237 238	The construction sector comprises establishments primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Establishments primarily engaged in the preparation of sites for new construction and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector. Construction work done may include new work, additions, alterations, or maintenance and repairs. Activities of these establishments generally are managed at a fixed place of business, but they usually perform construction activities at multiple project sites. Production responsibilities for establishments in this sector are usually specified in (1) contracts with the owners of construction projects (prime contracts) or (2) contracts with other construction establishments (subcontracts).
Educational Services	61	611	<p>The Educational Services sector comprises establishments that provide instruction and training in a wide variety of subjects. This instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training centers. These establishments may be privately owned and operated for profit or not for profit, or they may be publicly owned and operated. They may also offer food and/or accommodation services to their students.</p> <p>Educational services are usually delivered by teachers or instructors that explain, tell, demonstrate, supervise, and direct learning. Instruction is imparted in diverse settings, such as educational institutions, the workplace, or the home, and through diverse means, such as correspondence, television, the Internet, or other electronic and distance-learning methods. The training provided by these establishments may include the use of simulators and simulation methods. It can be adapted to the particular needs of the students, for example sign language can replace verbal language for teaching students with hearing impairments. All industries in the sector share this commonality of process, namely, labor inputs of instructors with the requisite subject matter expertise and teaching ability.</p>
Finance and Insurance	52	522 523 524 525	<p>The Finance and Insurance sector comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions. Three principal types of activities are identified:</p> <ol style="list-style-type: none"> <li>1. Raising funds by taking deposits and/or issuing securities and, in the process, incurring liabilities. Establishments engaged in this activity use raised funds to acquire financial assets by making loans and/or purchasing securities. Putting themselves at risk, they channel funds from lenders to borrowers and transform or repackage the funds with respect to maturity, scale, and risk. This activity is known as financial intermediation.</li> <li>2. Pooling of risk by underwriting insurance and annuities. Establishments engaged in this activity collect fees, insurance premiums, or annuity considerations; build up reserves; invest those reserves; and make contractual payments. Fees are based on the expected incidence of the insured risk and the expected return on investment.</li> <li>3. Providing specialized services facilitating or supporting financial intermediation, insurance, and employee benefit programs.</li> </ol> <p>In addition, monetary authorities charged with monetary control are included in this sector.</p>

Industry	NAICS 2	NAICS 3	Long Definition
Health Care and Social Assistance	62	621 622 623 624	The Health Care and Social Assistance sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.
Information	51	511 512 515 517 518 519	<p>The Information sector comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.</p> <p>The main components of this sector are the publishing industries, including software publishing, and both traditional publishing and publishing exclusively on the Internet; the motion picture and sound recording industries; the broadcasting industries, including traditional broadcasting and those broadcasting exclusively over the Internet; the telecommunications industries; Web search portals, data processing industries, and the information services industries.</p> <p>The Information sector groups three types of establishments: (1) those engaged in producing and distributing information and cultural products; (2) those that provide the means to transmit or distribute these products as well as data or communications; and (3) those that process data.</p>
Management of Businesses	55	551	The Management of Companies and Enterprises sector comprises (1) establishments that hold the securities of (or other equity interests in) companies and enterprises for the purpose of owning a controlling interest or influencing management decisions or (2) establishments (except government establishments) that administer, oversee, and manage establishments of the company or enterprise and that normally undertake the strategic or organizational planning and decision making role of the company or enterprise. Establishments that administer, oversee, and manage may hold the securities of the company or enterprise.
Manufacturing and Mining	31-33, 21	211 212 213 311 312 313 314 315 316 321 322 323 324 325 326 327	<p>The Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.</p> <p>Establishments in the Manufacturing sector are often described as plants, factories, or mills and characteristically use power-driven machines and materials-handling equipment. However, establishments that transform materials or substances into new products by hand or in the worker's home and those engaged in selling to the general public products made on the same premises from which they are sold, such as bakeries, candy stores, and custom tailors, may also be included in this sector. Manufacturing establishments may process materials or may contract with other establishments to process their materials for them. Both types of establishments are included in manufacturing.</p> <p>The Mining sector comprises establishments that extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include quarrying, well operations, beneficiating (e.g., crushing, screening, washing, and flotation), and other preparation customarily performed at the mine site, or as a part of mining activity.</p>
Other Services, Except Government Professional and Scientific Services	81  54	811 812 813  541	<p>Establishments in this sector perform essential activities that are often undertaken, in-house, by establishments in many sectors of the economy. By consolidating the performance of these activities of the enterprise at one establishment, economies of scale are achieved.</p> <p>The Professional, Scientific, and Technical Services sector comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this sector specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services.</p>

Industry	NAICS 2	NAICS 3	Long Definition
Real Estate and Rental and Leasing	53	531 532 533	<p>The Real Estate and Rental and Leasing sector comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets, and establishments providing related services. The major portion of this sector comprises establishments that rent, lease, or otherwise allow the use of their own assets by others. The assets may be tangible, as is the case of real estate and equipment, or intangible, as is the case with patents and trademarks.</p> <p>This sector also includes establishments primarily engaged in managing real estate for others, selling, renting and/or buying real estate for others, and appraising real estate. These activities are closely related to this sector's main activity, and it was felt that from a production basis they would best be included here. In addition, a substantial proportion of property management is self-performed by lessors. The main components of this sector are the real estate lessors industries (including equity real estate investment trusts (REITs)); equipment lessors industries (including motor vehicles, computers, and consumer goods); and lessors of nonfinancial intangible assets (except copyrighted works).</p>
Transportation and Warehousing	48-49	481 483 484 485 486 487 488 492 493	<p>The Transportation and Warehousing sector includes industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. Establishments in these industries use transportation equipment or transportation related facilities as a productive asset. The type of equipment depends on the mode of transportation. The modes of transportation are air, rail, water, road, and pipeline.</p>
Utilities	22	221	<p>The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal. Within this sector, the specific activities associated with the utility services provided vary by utility: electric power includes generation, transmission, and distribution; natural gas includes distribution; steam supply includes provision and/or distribution; water supply includes treatment and distribution; and sewage removal includes collection, treatment, and disposal of waste through sewer systems and sewage treatment facilities.</p>
Wholesale and Retail Trade	42, 44-45	423 424 425 441 442 443 444 445 446 447 448 451 452 453 454	<p>The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The merchandise described in this sector includes the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing.</p> <p>The wholesaling process is an intermediate step in the distribution of merchandise. Wholesalers are organized to sell or arrange the purchase or sale of (a) goods for resale (i.e., goods sold to other wholesalers or retailers), (b) capital or durable nonconsumer goods, and (c) raw and intermediate materials and supplies used in production.</p> <p>Wholesalers sell merchandise to other businesses and normally operate from a warehouse or office. These warehouses and offices are characterized by having little or no display of merchandise. In addition, neither the design nor the location of the premises is intended to solicit walk-in traffic. Wholesalers do not normally use advertising directed to the general public. Customers are generally reached initially via telephone, in-person marketing, or by specialized advertising that may include Internet and other electronic means. Follow-up orders are either vendor-initiated or client-initiated, generally based on previous sales, and typically exhibit strong ties between sellers and buyers. In fact, transactions are often conducted between wholesalers and clients that have long-standing business relationships.</p> <p>The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.</p> <p>The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and nonstore retailers.</p> <ol style="list-style-type: none"> <li>1. Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers. In general, retail stores have extensive displays of merchandise and use mass-media advertising to attract customers. They typically sell merchandise to the general public for personal or household consumption, but some also serve business and institutional clients. In addition to retailing merchandise, some types of store retailers are also engaged in the provision of after-sales services, such as repair and installation.</li> <li>2. Nonstore retailers, like store retailers, are organized to serve the general public, but their retailing methods differ. The establishments of this subsector reach customers and market merchandise with methods, such as the broadcasting of "infomercials," the broadcasting and publishing of direct-response advertising, the publishing of paper and electronic catalogs, door-to-door solicitation, in-home demonstration, selling from portable stalls (street vendors, except food), and distribution through vending machines.</li> </ol>

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