



**Department of
Development**

Policy Research and Strategic Planning Office
A State Affiliate of the U.S. Census Bureau

Gross Domestic Product from Ohio

January 2011



GROSS DOMESTIC PRODUCT FROM OHIO

JANUARY 2011

E100 Don Larrick, Principal Analyst
Policy Research and Strategic Planning, Ohio Department of Development
P.O. Box 1001, Columbus, Oh. 43216-1001
Steven Kelley, Editor

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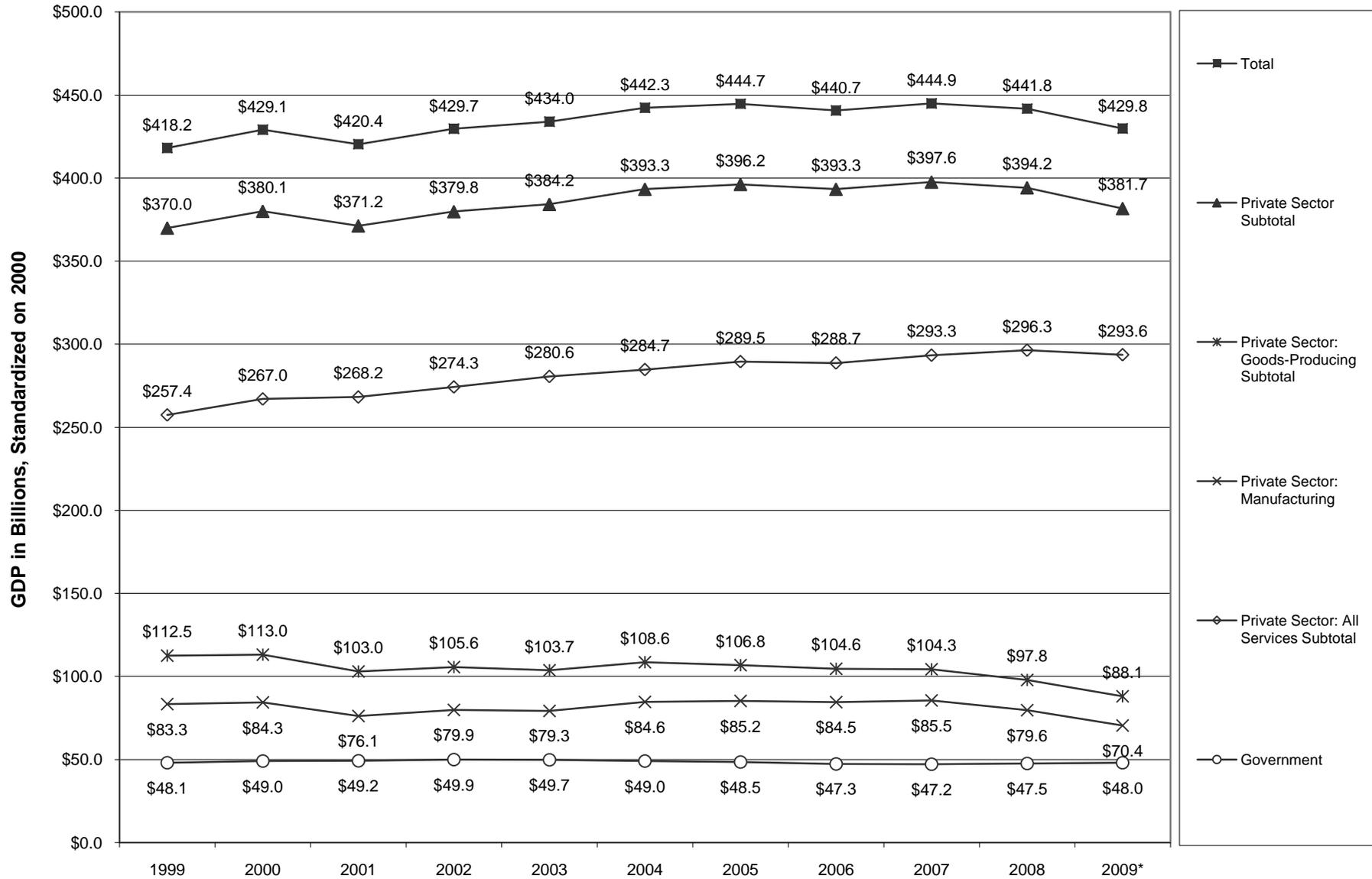
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RECENT CHANGES IN OHIO'S ECONOMY

Changes in Ohio's Economic Output, 1999-2009

After the Effects of Inflation Have Been Removed



Source: U.S. BEA

* - Preliminary

REMOVING THE EFFECTS OF INFLATION

The use of chained dollars in the chart above removes the effects of price changes incorporating inflation – or in rare cases, deflation – and permits comparisons between years of the *volumes* of goods produced and services provided. Overall, the GDP figures, standardized on the year 2005 and displayed above, show real growth in the output of goods and services in Ohio from 1999 through 2007 (\$418.2 billion to \$444.9 billion), with the exceptions of 2001 and 2006 when output dipped slightly. The declining figures in 2008 and 2009 define the recession and indicate that most of the growth from 2001 through 2007 has been wiped out. The net change in Ohio in real output from 1999 through 2009 was 2.8 percent. This overall pattern reflects the changes in the private sector, with net growth of 3.2 percent. By contrast, government services changed little from year to year, with figures for 1999 and 2009 nearly the same – about \$48 billion.

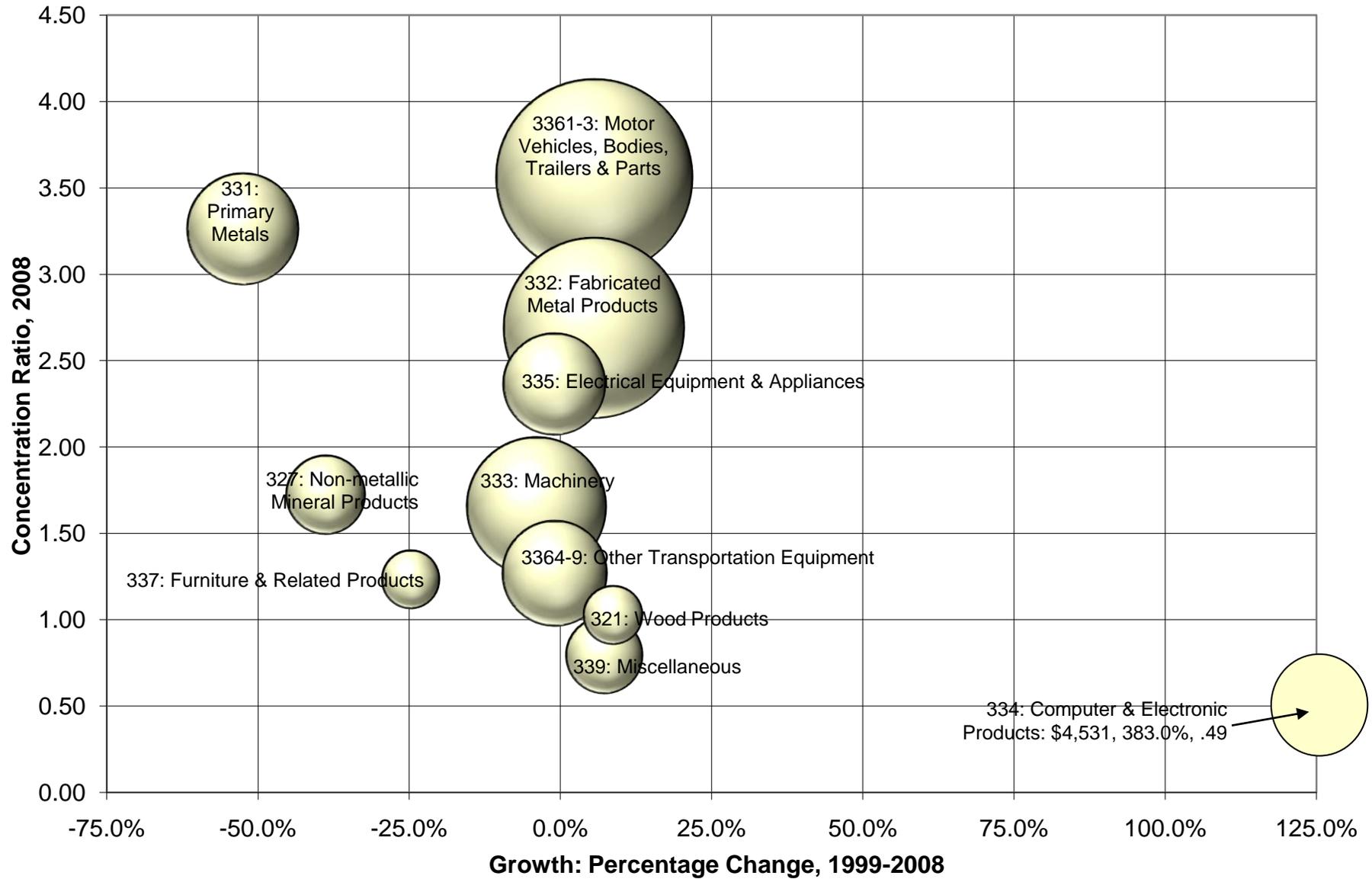
The chart above further specifies where changes occurred in the private sector. The collective output of goods producers for the years covered was greatest in 2000 at \$113 billion. It fell to \$103 billion in 2001, recovered to \$108.6 billion in 2004, but fell to \$88.1 billion in 2009. The bulk of these changes were in manufacturing, which fell from \$84.3 billion in 2000 to \$76.1 billion in 2001, then recovered to a plateau around \$85 billion in the middle years of the decade before plunging to \$70.4 billion in 2009. Data from appendix table A2 show that the net decline in non-durable goods production from 2007 was steeper than that of durable goods: -19.0 percent vs. -13.5 percent. (The volume of durable goods production is about twice that of non-durable goods.) Output from agriculture-forestry-fishing-hunting fluctuated, but has risen recently to a level notably greater in 2009 than in 1999. On the other hand, the volume of goods produced by mining and construction has fallen almost without interruption since 1999.

By contrast, the collective output of private sector service-providers increased each year until 2009, when it declined from \$296.3 in 2008 to \$293.6 billion. Some sectors showed greater-than-average growth over the years even though output may not have increased every year. These include wholesale trade, transportation-warehousing, information, finance-insurance, enterprise management, and healthcare-social assistance. Professional-technical services and administrative-waste remediation services were close to the overall private service average. Others showed slower-than-average growth or even a net decline. Private sector services as a whole have been virtually flat since 2007. The growth in utilities, information, finance-insurance, and health care-social assistance have been offset by the lower levels in trade, transportation-warehousing, administrative-waste remediation, arts-entertainment-recreation, accommodation-food, and other non-governmental services (NAICS 81).

The following sections provide more information about sectors and major industries: their relative concentration in Ohio's economy, industry groups driving the concentration within them (or exceptions if the latter are sparse), how they may have changed here during the last few years, and a comparison with corresponding national trends.

See Table A2

Ohio GDP: Growth, Concentration, & Size: Manufacturing Durable Goods



Source: U.S. BEA

DURABLE GOODS PRODUCTION

As noted earlier, manufacturing is the largest sector in Ohio’s economy and is concentrated here. This is especially characteristic of durable goods production. Major industries concentrated in Ohio include, in descending order, motor vehicles-bodies-trailers-parts (NAICS 3361-3363), primary metals, fabricated metal products, electrical equipment and appliances, non-metallic mineral products, machinery, other transportation equipment (3364-3369), and furniture and related products. In particular, it is the first five major industries that drive durable goods concentration in Ohio so high. (See the chart above. The sizes of the bubbles indicate the size of major industries’ contributions to GDP in Ohio. Motor vehicles, etc., was the largest in 2008 at \$13.44 billion. Dollar figures in these sector discussions are standardized on 2005.)

With few exceptions, GDP data provide no specific information about industry groups within major industries. However, employment data from County Business Patterns (U.S. Bureau of the Census, 2010a) for the state and the nation can be used to calculate concentration ratios for industry groups within major industries, thereby providing further insight into the sectors.³ For example, County Business Patterns data indicate that vehicle assembly (3361) and parts production (3363) are particularly concentrated in Ohio, while the manufacture of trailers and bodies (3362) is roughly proportional. Additional data confirm this concentration in assembly and parts production: in 2009, 16.9 percent of the cars and 11.9 percent of the light trucks assembled in the U.S. came from six high-volume plants in Ohio. Combining the two means that 14.2 percent of U.S. light vehicle production originated in Ohio, making it the 2nd-ranked source for light vehicles (Automotive News, 2010). Data from ELM International (2010) indicate that Ohio has the second largest number of establishments in America directly supplying parts to vehicle assemblers.

County Business Patterns data also show that, except for other transportation equipment (3369), activity in the remaining transportation groups (3364-3366) is not concentrated here. The concentration in other transportation equipment probably reflected the activity at the M1 tank plant.

County Business Patterns data illuminate other major industries as well. Activity in all of the primary metal groups is concentrated in Ohio: iron and steel mills and ferroalloy production (3311), steel products made from purchased steel (3312), aluminum smelting and products (3313), and, generally, the production of other metals – notably copper (3314). Foundry employment (3315) is also concentrated here (U.S. Bureau of the Census, 2010a). Data from other sources show Ohio’s prominent role in steel production: typically one-eighth to one-sixth of U.S. raw steel production originates in Ohio. (The low percentage in 2009 was an exception (American Iron & Steel Institute, 1974-2004; International Iron and Steel Institute, 2010; Ohio Steel Council, 2010)).

Activity in all nine fabricated metal (332) groups is more or less concentrated in Ohio (U.S. Bureau of the Census 2010a). Activities include shaping metal pieces by forging, heat-treating, coating stamping, bending, forming, machining, engraving,

ing and/or welding purchased materials. (Stampings for motor vehicles are classified as motor vehicle parts (33637).) Products include cutlery, unpowered hand tools, boilers, containers, hardware, nuts, bolts, screws, rivets, springs, wires, valves and plumbing fixtures, bearings, safes, ladders, washers, tanks, and the output of machine shops. (Washing machines and military weapons are classified elsewhere.) In this case, County Business Patterns data lead to the conclusion that it is the combination of a variety of such goods made in large volume that results in Ohio's 2nd rank in industry GDP.

Activity in machinery manufacturing is concentrated in six of the seven industry groups: industrial machinery (3332), machinery for commercial and service industries (3333), heating, ventilation, air conditioning, and commercial refrigeration equipment (3334), metalworking machinery (3335), engines, turbines and power transmission equipment (3336), and general purpose machinery (3339) (U.S. Bureau of the Census, 2010a). As with fabricated metals, it is the combination of a variety of goods made in large volume that results in Ohio's overall 4th rank in industry GDP.

Ohio is the leading source for electrical equipment and appliances in the U.S. Activity is more or less concentrated in all four groups: electric lighting equipment (3351), household appliances (3352), electrical equipment (3353) such as motors, generators (except turbines, which are classified elsewhere), transformers, switching equipment, relays, and industrial controls, and other electrical equipment and components (3359) such as batteries, wires, and cables (U.S. Bureau of the Census, 2010a).

Manufacturing non-metallic mineral products (327) is concentrated in Ohio. County Business Patterns data point to clay (3271), glass (3272), lime and gypsum (3274) and other materials (3279) as the concentrated groups driving production here. On the other hand, the concentration of furniture and related products reflects the concentration of household and institutional furniture and kitchen products (3371) alone (U.S. Bureau of the Census, 2010a).

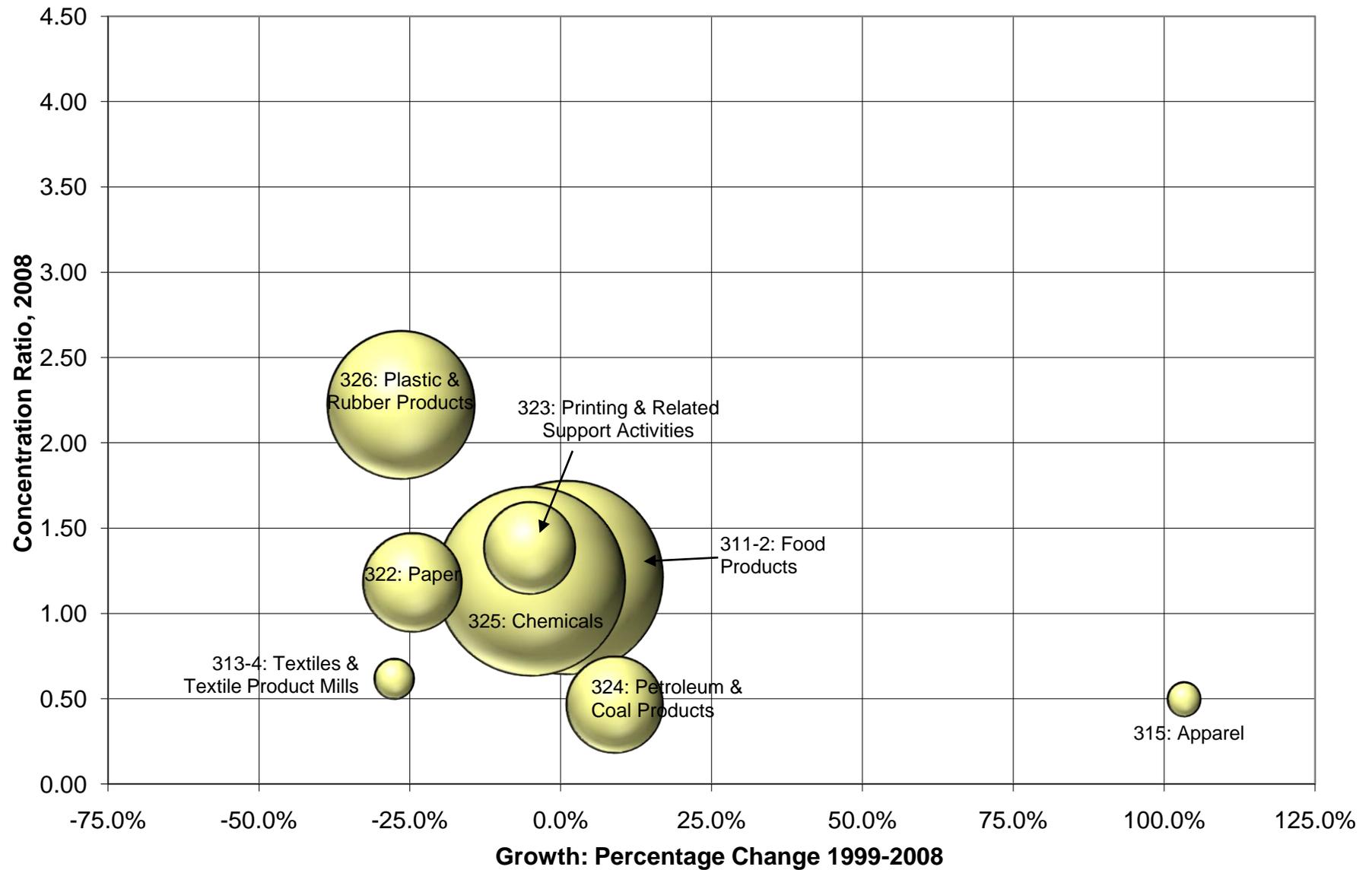
Durable goods output in Ohio reached a small peak in 2000, dropped in 2001, and gradually grew to a greater peak in 2007 before falling back in 2008 to a level comparable with 2005. This summary statement masks the varying trends of industries illustrated above. On one hand, there was the off-scale high growth of computers and electronic products. On the other hand, real output in 2008 was significantly lower than in 1999 for primary metals, non-metallic mineral products, and furniture and related products – perhaps as part of the recessionary year of 2008. However, most major industries showed little net change from 1999 or grew at a rate comparable to the state average of 5.6 percent. The manufacture of computer, electronic, wood and miscellaneous products is not concentrated here.

The volume of durable goods produced in Ohio rose 18.7 percent from 1999 to 2008. This is less than the corresponding national growth of 45.5 percent. However, industry-by-industry comparisons tell different stories. Some in Ohio grew at modest rates comparable with the corresponding national average – notably wood and fabricated metal products. In others – computers, electronic products, and motor vehicles-bodies-trailers-parts – growth in Ohio lagged the national average. In the remaining industries, output in Ohio fell while the national industry grew, or fell at faster rates than the national average fell.

The initial durable goods production figure for Ohio in 2009 is less than the revised number for 2008, and is nearly 13.5 percent below that of 2007. This means that the growth in Ohio from 2003 to 2007 disappeared in two years. The corresponding two-year decline for the nation as a whole was 7.3 percent.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Manufacturing Non-durable Goods



Source: U.S. BEA

NON-DURABLE GOODS PRODUCTION

The overall production of non-durable goods is concentrated in Ohio, although not to the extent of durable goods. As with durable goods, the concentration is greater in some industries – notably plastic and rubber products (NAICS 326) and printing and related support activities (323). Lesser concentrations are evident in paper (322) and chemical (325) production and food products – the combination of food processing (311) and beverage production (312). The output from other, smaller sectors is relatively sparse.

Again, County Business Patterns data provide further insight into groups driving production in the state. Manufacturing plastic (3261) and rubber (3262) products – especially the latter – is concentrated here, making Ohio the leading state in that major industry. In other major industries, though, the concentration is evident only in some groups. For example, the data show paper production focusing on the conversion of paper products (3222) to things such as corrugated items, boxes, bags, stationary, envelopes, coatings, laminates and other treatments, from purchased paper – not the initial production of paper (3221).⁴ Particular food products concentrated here include food for animals (3111), specialty foods and the preservation of fruits and vegetables (3114), and, to a lesser extent, bakeries (3118) and other food products such as snacks, coffee and tea, syrups, seasonings, dressings, spices, popcorn, etc. (3119). Some chemical groups are concentrated here: basic chemicals such as industrial gases, pigments, dyes, chlorine, etc. (3251), plastic resins, synthetic rubber, etc. (3252), paints, coatings and adhesives (3255), soaps and cleaners (3256), and other preparations as diverse as inks and explosives (3259) (U.S. Bureau of the Census, 2010a).

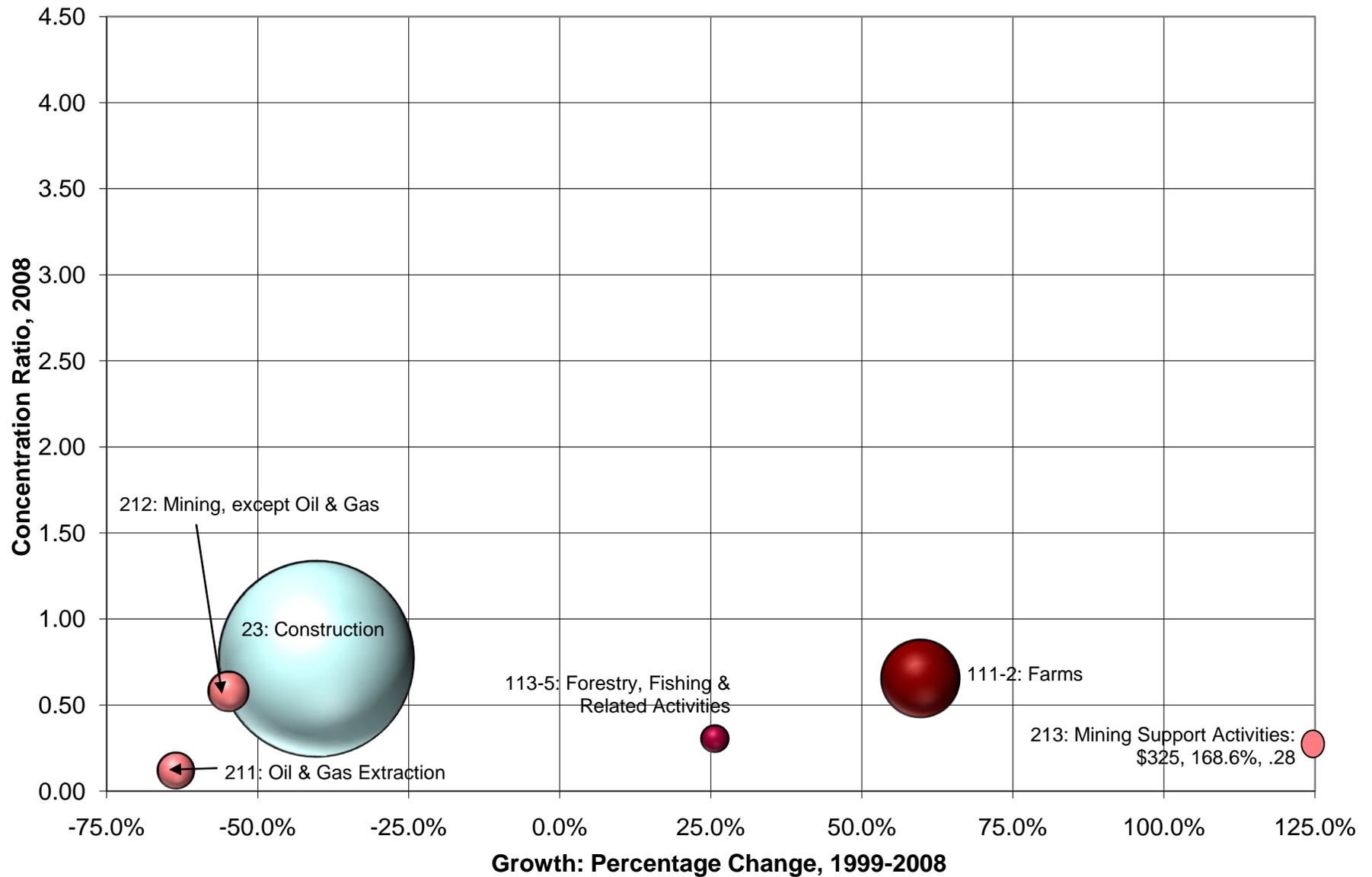
The production of non-durable goods in Ohio slid from 1999 through 2001. Although it bounced back and fluctuated between \$28 and \$30 billion from 2002 through 2007, aggregate output fell in 2008 to a level lower than 2001. Most of the constituent major industries were either little changed from 1999 or saw production fall. The only exception was the recovery of the apparel industry, where output was at least double from 1999 levels, but less than in 2007.

Non-durable goods manufacturers across the nation have fared marginally better than those in Ohio, with 2008 output 3.6 percent above 1999's level. As in Ohio, national output in 2008 was little changed or below 1999 levels for the majority of industries. The most notable exception was 77 percent growth in petroleum and coal products, which far surpassed Ohio.

Initial figures for 2009 show a 19.4 percent drop from 2007 in non-durable goods production in Ohio. This is worse than the national decline of 11.8 percent.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Non-manufacturing Goods-Producing Industries



Source: U.S. BEA

NON-MANUFACTURING GOODS-PRODUCING INDUSTRIES

The graph above shows that none of the non-manufacturing goods-producing sectors or major industries is concentrated in Ohio. However, data from other sources indicate specific exceptions: in 2008, Ohio was the 7th-ranked source for both corn and soy beans with 3.5 and 5.4 percent, respectively, of national production (U.S. Bureau of the Census, 2009: tables 831 & 832).⁵

The graph also shows that net growth in agriculture has out-paced Ohio's overall growth. This is true for farm production (NAICS 111-2) as well as forestry, fishing, and related activities (113-5). In a sector often characterized as volatile, both major industry clusters have grown with little interruption since the recession of 2001. Agricultural sector growth in Ohio has exceeded the corresponding growth for the country as a whole. This faster growth is specific to farm production, while the growth of forestry, etc., although faster than the state average, has lagged the nation as a whole.

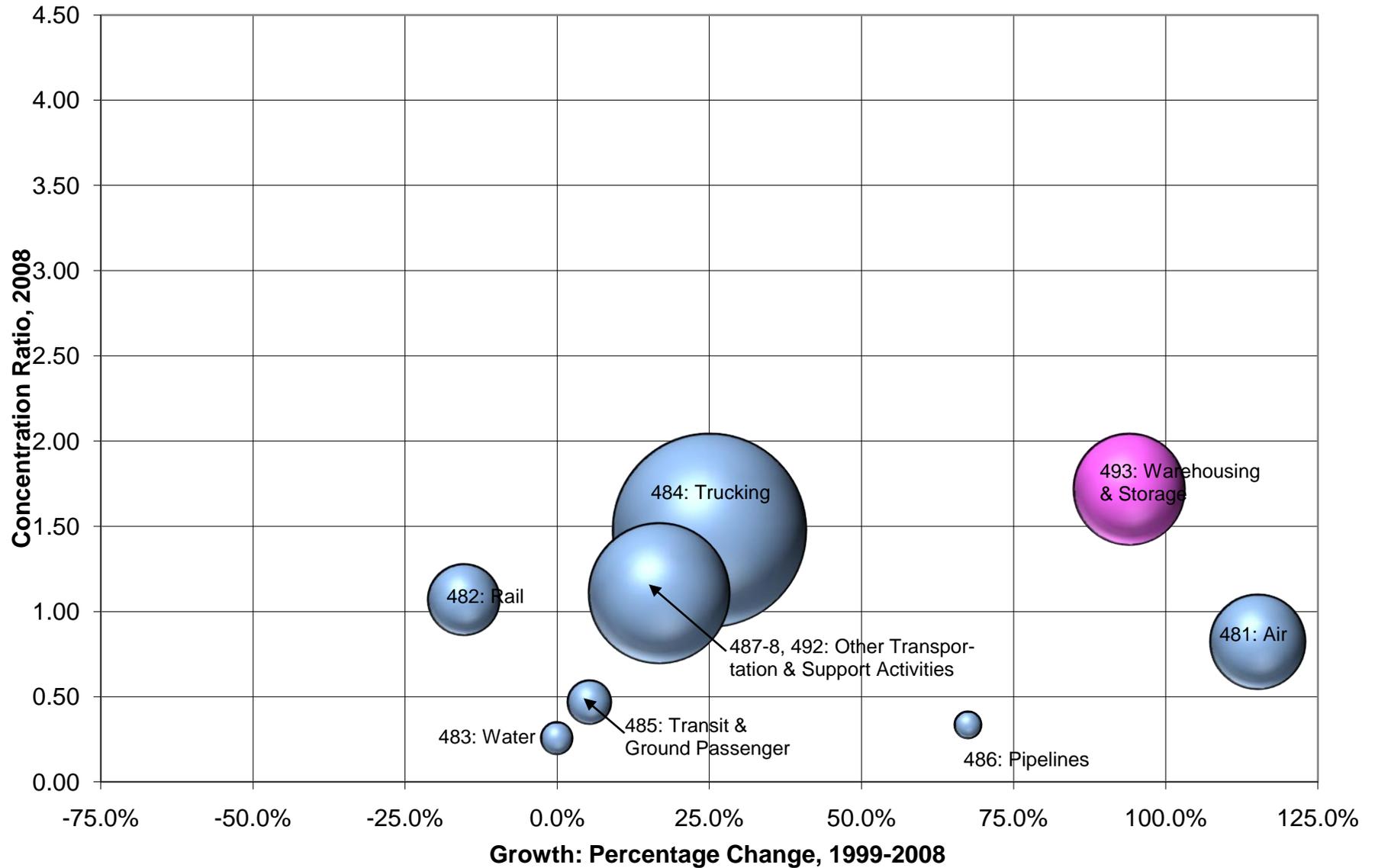
Construction activity (23) in Ohio is near the other end of the spectrum, though, gradually-but-steadily declining since 1999. For the country as a whole, construction peaked in 2001 and decreased thereafter. The difference is that construction activity here has fallen faster than the national average.

The output from wells and mines in Ohio has fallen since the early years of this decade (2000-2002), but support activities for mining have risen from the low point of 1999, but the increase has not been linear. For country as a whole, oil and gas extraction was at a high point in this time period in 1999 and has dropped with little interruption since, while the volume of other materials mined fluctuated but is currently lower now than earlier in the decade. National support activities for mining have grown since 1999 like they have in Ohio, but at a slower pace.

Initial figures for 2009 show continuing growth – 12.9 percent – of Ohio's agricultural sector from 2007 as well as a turn-around in mining and related activities. On the other hand, construction activity continued to slide. All of these recent changes are comparable with corresponding changes across the nation.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Transportation & Warehousing (exc. Postal Service)



Source: U.S. BEA

SERVICES: TRANSPORTATION AND WAREHOUSING

Transportation and warehousing services are, overall, somewhat concentrated in Ohio, but the constituent major industries range from notably-concentrated to sparse. The chart above shows that trucking (NAICS 484) is the largest one in this sector and is concentrated here. County Business Patterns data specify general freight trucking (4841) as the concentrated group, while specialized freight trucking (4842) and arrangements for freight transit (4885) are not. Rail (482) is the only other major transportation industry close to concentrated here, and County Business Patterns data indicate that support for rail transportation (4882) is concentrated here (U.S. Bureau of the Census, 2010a).

Other major transportation industries – air (481), water (483), transit-and-ground (485), and pipelines (486) – are more or less sparse, as are the corresponding support service (classified in 487, 488 and 492). However, County Business Patterns data point to three groups that are exceptions: non-scheduled air transportation (air-charter and air-taxi services – 4812), the pipeline transport of crude oil (4861), and courier services (4921) specializing in parcel delivery regardless of mode (U.S. Bureau of the Census, 2010a).

The chart above also shows that the overall above-average growth of the sector from 1999 through 2008 is notably due to the high growth of air and pipeline transportation, which more than offset the net decline of rail services. Other major industries – trucking, transit-and-ground, and other transportation and support activities – had their ups and downs, but showed real growth ranging from comparable with the state to above-average.

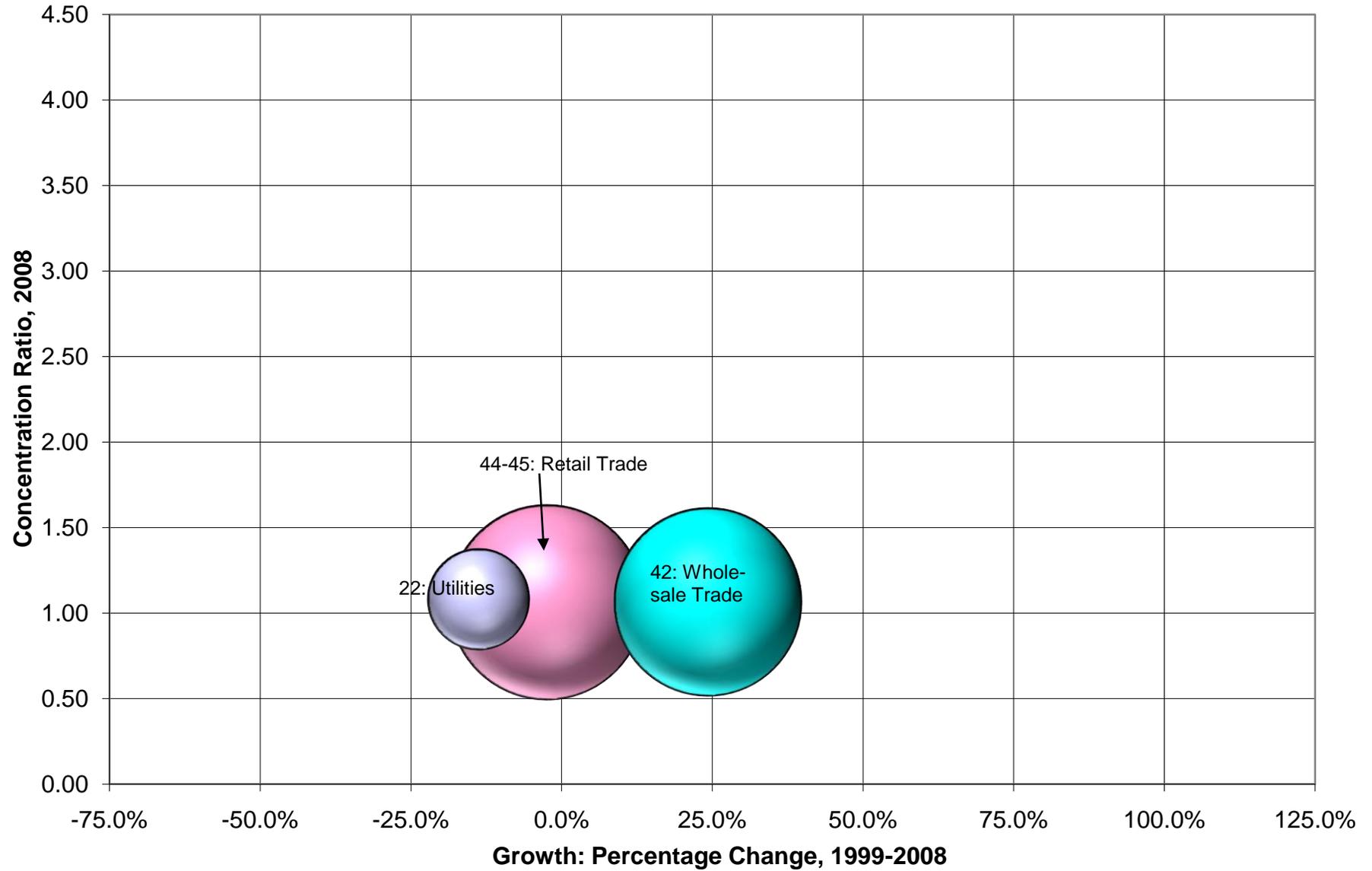
Many of the changes described above are parts national trends: air, truck, pipeline transportation, and other transportation and support activities grew more or less rapidly in Ohio and the U.S. In fact, the growth of air and pipeline services in Ohio was much faster than the national average, while growth in trucking and transit-and-ground services was modest but fairly close to the national average. The only difference was the national growth of water transportation.

Warehousing and storage activity (493) is concentrated in Ohio, and the volume of services provided nearly doubled from 1999 through 2008. The only interruption to growth occurred in 2001, and services in 2008 were down from 2007. The growth of corresponding services in the nation as a whole was above average, but not as rapid as here.

Initial transportation and warehousing sector data for 2009 show a continuing downturn from 2007 here and across the country.

See Tables A2, A3, A5, A7, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Utilities, Wholesale & Retail Trades



Source: U.S. BEA

SERVICES: UTILITIES, WHOLESALE AND RETAIL TRADE

The provision of utility services in Ohio is faintly concentrated. County Business Patterns data reveal electric power generation, transmission, and distribution (NAICS 2211) to be the industry group with the vast majority of sector jobs – and the jobs in electric power generation are modestly concentrated here (U.S. Bureau of the Census, 2010a). Similarly, electricity production in Ohio during 2007 was 3.74 percent of national output (U.S. Bureau of the Census, 2009: table 913) while Ohio's portion of GDP that year was 3.37 percent. On the other hand, natural gas distribution (2212) jobs in Ohio are proportional with those across the country, while water and sewage jobs (2213) are relatively sparse here (U.S. Bureau of the Census, 2010a).

Overall wholesale activity in Ohio is close to proportional with the nation. However, County Business Patterns industry group data show an interesting variation: wholesalers distributing products of manufacturing industries concentrated in Ohio also tend to have employment concentrated here. This could be thought of as a carry-over effect. Wholesale jobs concentrated here include those dealing in motor vehicles, parts and tires (4231), metals and minerals (except petroleum) (4235), hardware, plumbing and heating equipment (4237), machinery and equipment (4238), paper products (4241), and chemicals and plastics (4246). The somewhat sparse jobs among electrical equipment (4236) and grocery (4244) wholesalers are exceptions to this tendency (U.S. Bureau of the Census, 2010a).

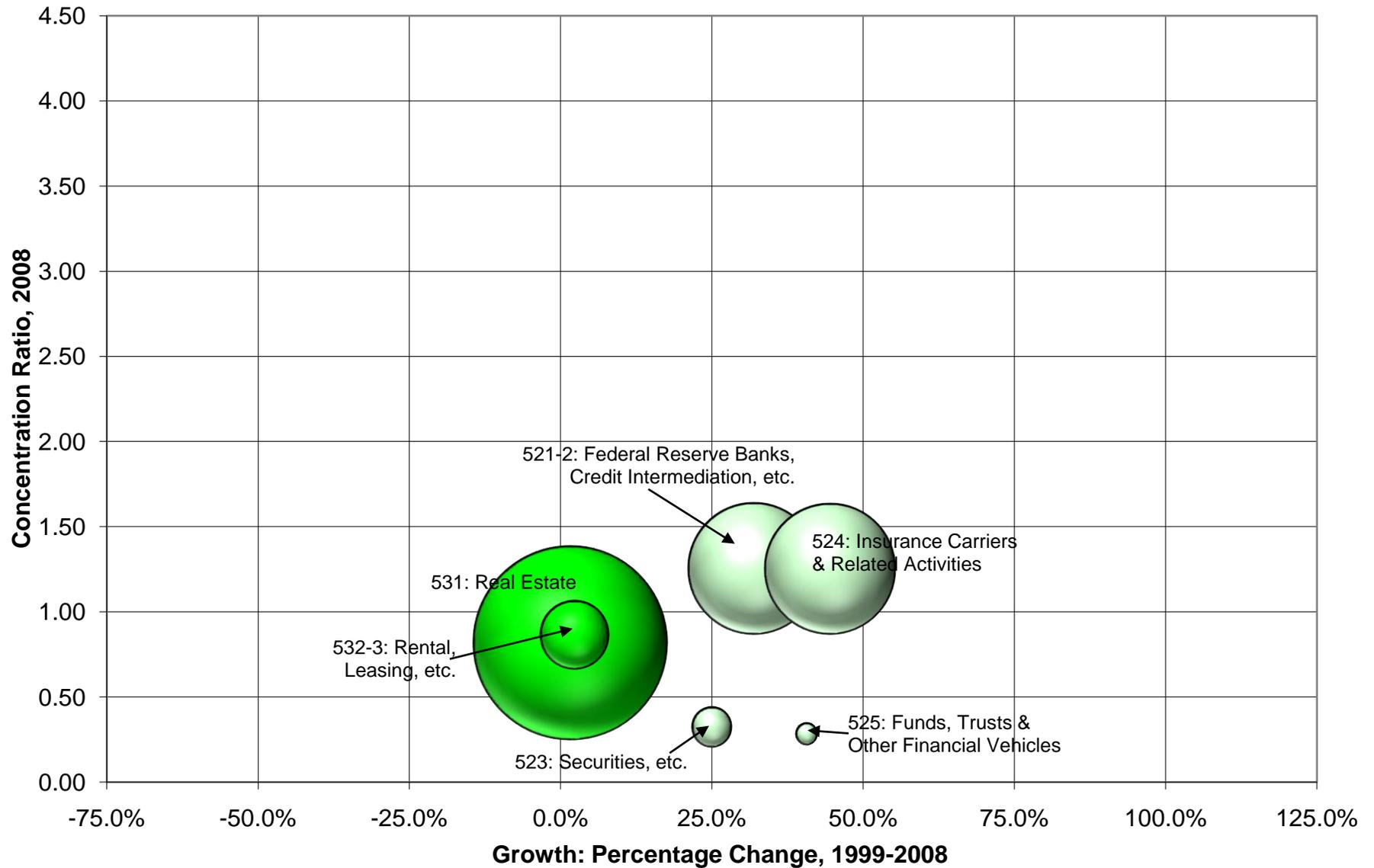
Overall retail activity in Ohio also is close to proportional with the nation as a whole. The four groups more or less concentrated here are florists (4531), used merchandise stores (4533), on-line and mail order shopping (4541), and vending machine operators (4542) (U.S. Bureau of the Census, 2010a).

Higher-than-average growth characterized wholesale trade from 1999 through 2008, while retail trade volumes rose and fell, with the 2008 level about the same as 1999. Utility services trended down after 1999, but have grown in recent years – just not back to the level of 1999. Growth rates in wholesale and retail trade across the nation were higher than in Ohio; but this may, in part, reflect a faster-growing population. National utility output fluctuated during this time period.

Initial figures for 2009 show continuing slides from 2007 in wholesale and retail activity here and across the country. The pleasant surprise is the growth in the utilities sector.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Finance, Insurance, Real Estate, Rental, & Leasing



Sources: U.S. BEA

SERVICES: FINANCE, INSURANCE, REAL ESTATE, RENTAL AND LEASING

The graph above shows major industries concentrated in Ohio: insurance carriers and related activities (NAICS 524) and the combination of Federal Reserve banks (521) and credit intermediation (522). County Business Patterns data point to insurance carriers (5241) – those businesses actually writing the policies and assuming the risks – as the ones concentrated here. Brokers, agents and related activities (5242) appear essentially proportional. The financial concentration in Ohio reflects the presence of a Federal Reserve bank (5211) in Cleveland as well as commercial and private (*i.e.*, unincorporated) banks, savings and loans, and credit unions (5221) (U.S. Bureau of the Census, 2010a).

All four major industries in the finance and insurance sector (52) netted faster than average growth. While all four had ups and downs in this period, the sparsely represented and much smaller securities (523) and funds (525) industries experienced comparatively wider swings (judging on the basis of percentage change) from one year to the next. It may be by coincidence that the 1999-2008 net changes of those smaller industries are similar to the relatively steadier growth of the larger industries. The higher growth rates of the insurance and funds industries were offset by the slower growth of the Federal Reserve-credit intermediation-insurance and securities industries to the effect that overall sector growth in Ohio nearly matched that of the nation.

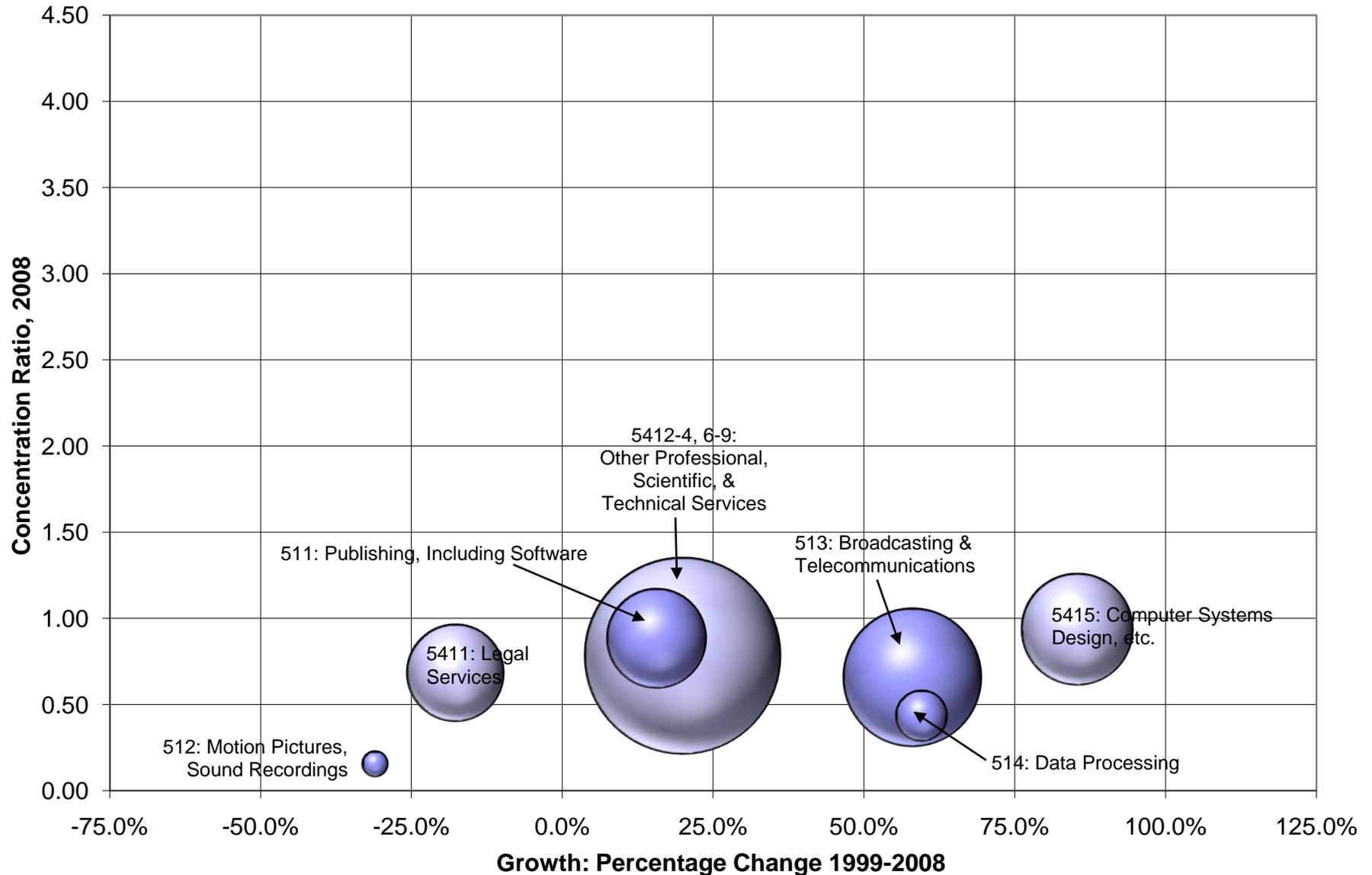
Real estate (531) is the single largest major industry in Ohio, but the large GDP number is much more indicative of the role of mortgages in the economy than the activity of real estate offices.⁶ Neither it nor rental and leasing services, etc. (532-533) is concentrated here. County Business Patterns data do not indicate any exceptions (U.S. Bureau of the Census, 2010a).

Activity in real estate during 2008 was marginally greater than in 1999, but activity peaked in 2001 and has drifted lower since. Activity in rental and leasing services, etc., fluctuated, but can be described the same way. Across the country real estate growth was almost uninterrupted. Rental and leasing activity also rose and contracted a number of times before ending higher in 2008. Net growth rates for the national industries were greater than in Ohio.

Initial figures for 2009 indicate the finance and insurance sector has continued to grow here since 2007, but peaked and contracted in the rest of the country. Rental and leasing activity in Ohio and the nation is little changed since 2007.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Information, Professional & Technical Services



Source: U.S. BEA

SERVICES: INFORMATION AND PROFESSIONAL-AND-TECHNICAL

The activities of the information (NAICS 51) and professional-and-technical (54) service establishments generally are not concentrated in Ohio. The two exceptions are satellite communications (5174) and, to a modest extent, other information services (5191). Although the former is highly concentrated, it employs less than 800 people here (U.S. Bureau of the Census, 2010a). The latter includes news syndicates, libraries, archives, and internet publishing-broadcasting-web search portals, etc. (Office of Management and Budget, 2007).⁷

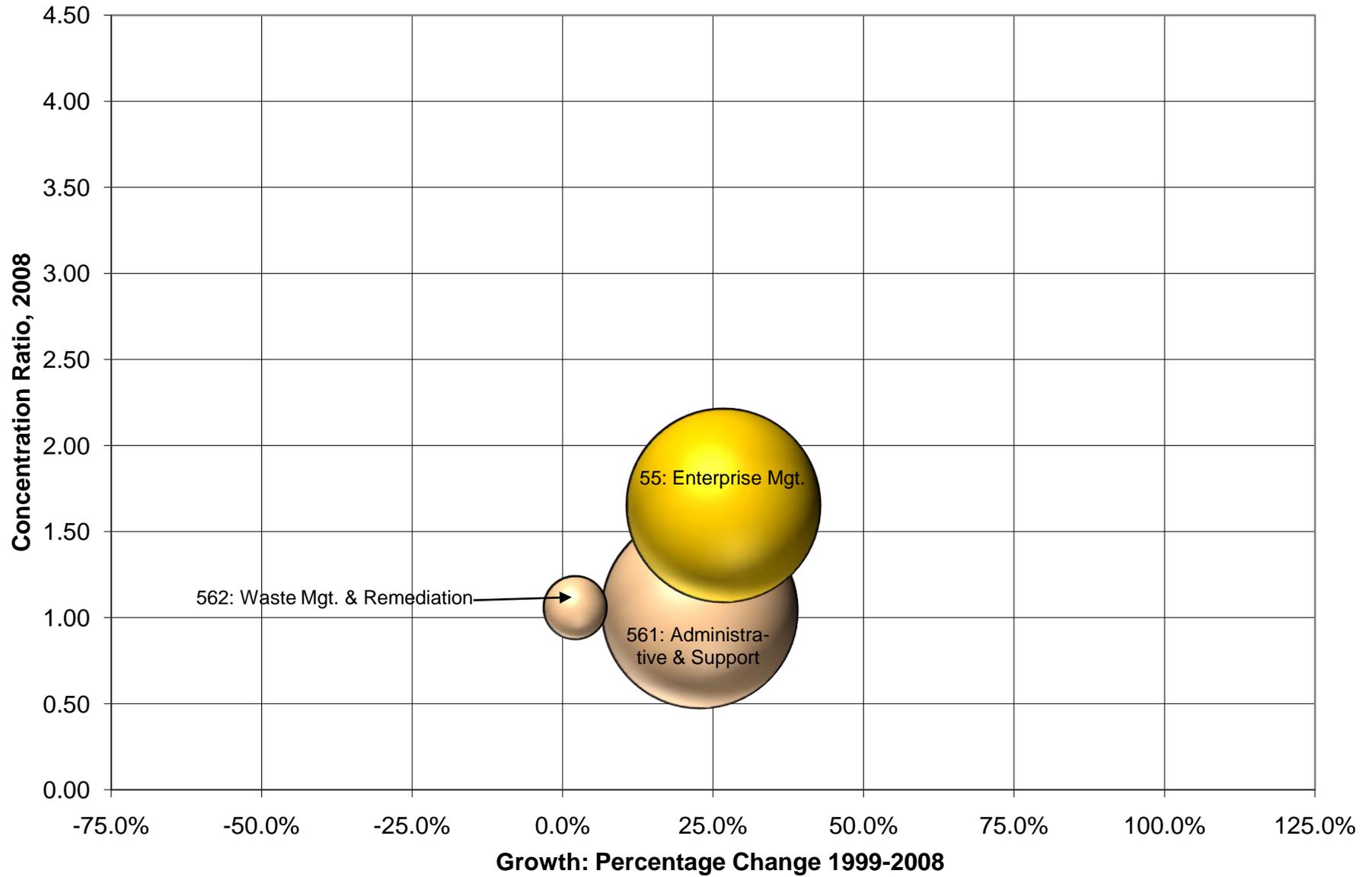
While none of the major industries is concentrated here, most experienced faster-than-average growth from 1999 through 2008. As fast as the growth was for these industries in Ohio, it usually was less rapid than the corresponding national experience. The exception was computer systems design and related services (5415), which grew 85.4 percent in Ohio compared with the national average of 78.8 percent.

On the other hand, motion picture and sound recording activity (512) and legal services (5411) fluctuated from year to year before trending downward. The former shows a net decrease of 31 percent and the latter a net decrease of 17.7 percent in Ohio. Both industries experienced little net national change.

Initial figures for 2009 show slow, steady growth since 2007 in the information sector in Ohio and across the country. However, business in professional-and-technical services in 2009 was off from 2008, returning to 2007 levels in Ohio and the nation as a whole.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration, & Size: Enterprise Mgt., Administrative & Support, Waste Mgt. & Remediation



Source: U.S. BEA

SERVICES: ENTERPRISE MANAGEMENT, ADMINISTRATIVE AND SUPPORT, WASTE MANAGEMENT AND REMEDIATION

The management of companies and enterprises (NAICS 55) is concentrated in Ohio. County Business Patterns data are consistent with the GDP data for this one-group sector (U.S. Bureau of the Census, 2010a). This concentration undoubtedly includes the relatively large number – 58 – of the Fortune U.S.-1,000 companies headquartered in Ohio, as well as the subsidiary and regional offices of those and other companies (Fortune, 2010). The value of services provided fluctuated during the 1999-2008 period, ending with an above-average net change of 26.9 percent expansion. This stands in marked contrast with the national experience where the same services grew by 9.1 percent.

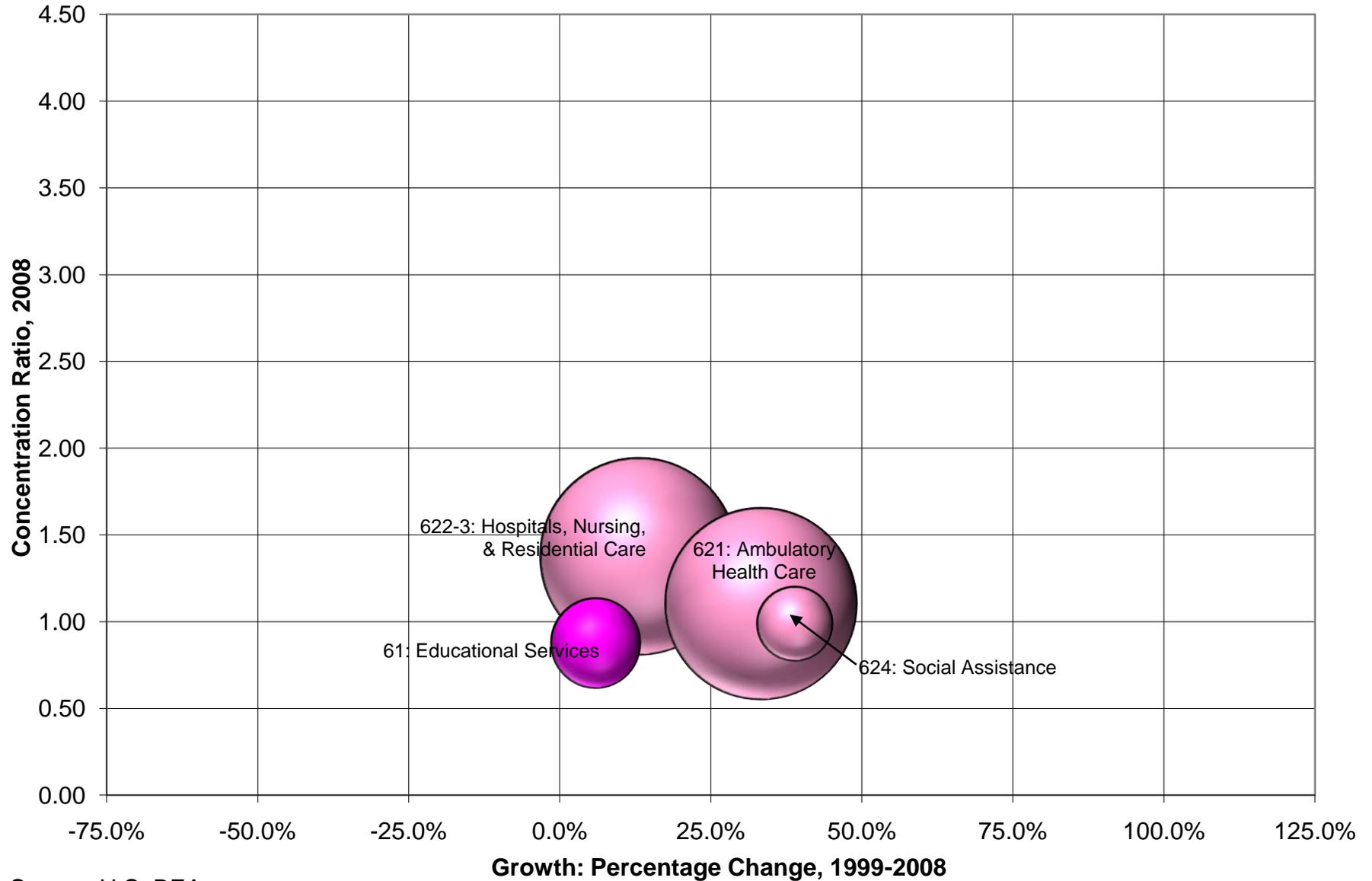
Administrative and support services (561) in Ohio are close to proportional with the national average. County Business Patterns data indicate that some groups – business support (5614) and other support services (5619) – are slightly concentrated, while the remaining groups are more or less sparse (U.S. Bureau of the Census, 2010a). Administrative and support services have grown since 2001, with 2008 activity levels 22.8 percent above those of 1999. National growth of this major industry has been greater.

Waste management and remediation services (562) include collecting, treating, incinerating or otherwise disposing waste materials (except sewage, which is classified as a utility service). They also include recovering recyclables and operating landfills. Overall, services of this major industry in Ohio are roughly proportional with the nation. County Business Patterns data show a concentration in waste treatment and disposal (5622) (U.S. Bureau of the Census, 2010a). This concentration may be, in part, a consequence of manufacturing's concentration in Ohio. This is consistent with the fact that 6.7 percent of toxic chemical releases in the country during 2007 originated in Ohio (U.S. Bureau of the Census, 2009: table 370). Activity in this industry fluctuated, but was 2.1 percent greater in 2008 than 1999. Activity across the nation has been up and down, but was greater in 2008 than in 1999.

Initial figures for 2009 show a decline enterprise management from 2008 to a level close to 2007 and virtually no change at the national level. Administrative and waste management services have fallen from 2008 levels to below those of 2007 here and for the country as a whole.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration & Size: Health Care, Social Assistance, & Education



Source: U.S. BEA

SERVICES: HEALTH CARE, SOCIAL ASSISTANCE, AND EDUCATION

The overall health care and social assistance sector (NAICS 62) is somewhat concentrated in Ohio, and the chart above illustrates how the major industries vary. Hospitals, nursing and residential care facilities (622 and 623 combined) are more concentrated than ambulatory health care (621), while social assistance (624) is proportional. County Business Patterns data point to general hospitals (6221) and nursing and community care facilities for the elderly (6231 and 6233) as the specific services concentrated here. Home and other ambulatory health care services (6216 and 6219) also are slightly concentrated here. A concentration in vocational rehabilitation (6243) is the exception in social assistance (U.S. Bureau of the Census, 2010a).

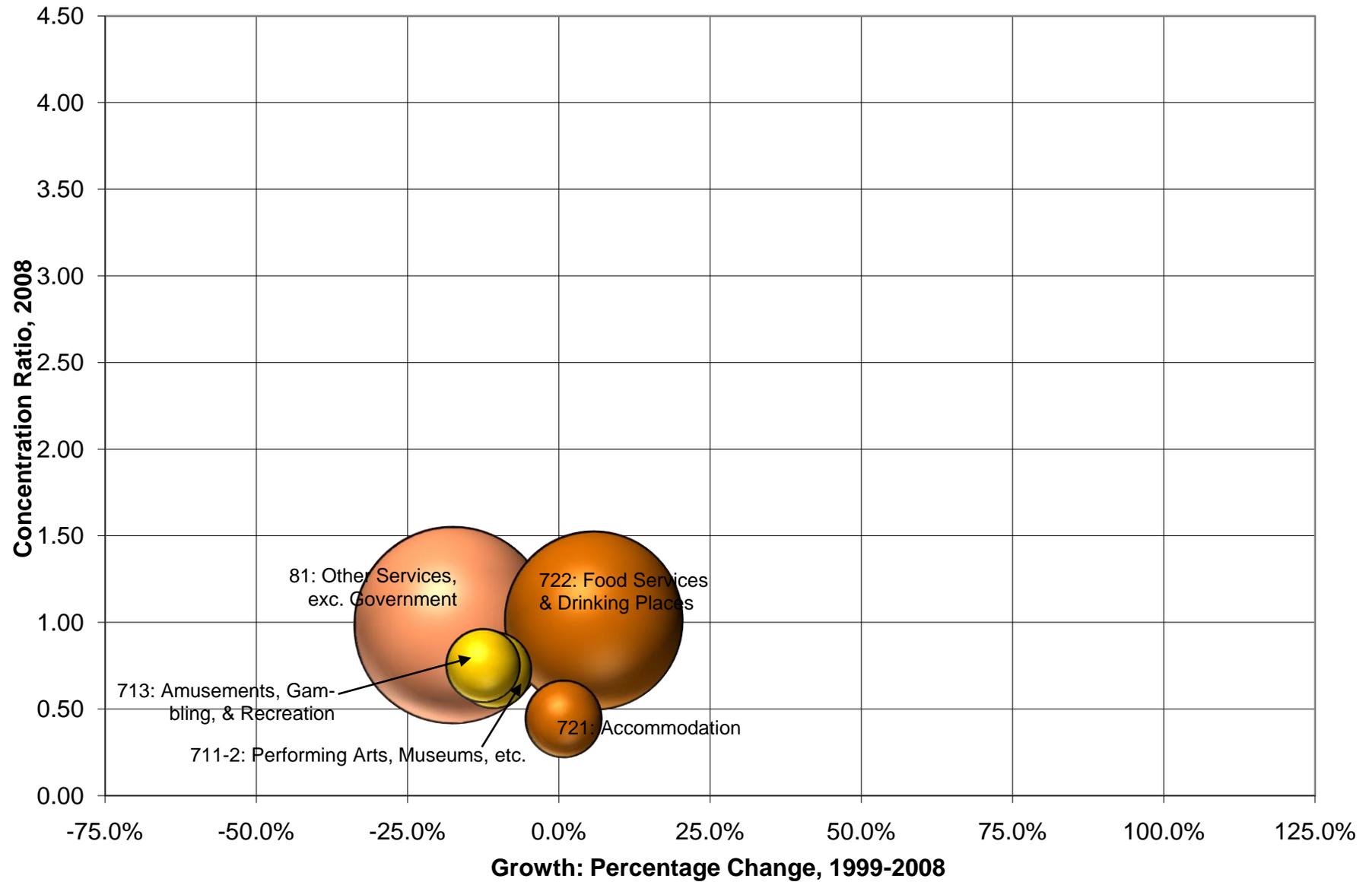
The overall provision of health care and social assistance in Ohio grew faster than average; the chart above reveals that most of the growth occurred in ambulatory health care and social assistance. Service provided by hospitals, nursing, and residential care facilities grew at a slower rate, but that rate was still faster than the overall average for Ohio. Except for social assistance, the corresponding paces of growth for the nation as a whole were greater.

Initial figures for 2009 show an increase from 2007 in health care and social assistance activity in Ohio, continuing the almost uninterrupted growth since 1999. While the growth rate is less than the corresponding rate for the national sector, it is one of the larger bright spots in Ohio's economy.

The chart above also shows that educational services (61) are not concentrated in Ohio. County Business Patterns data show no exceptions. The provision of educational services fluctuated over the years, with activity in 2008 six percent greater than in 1999. This is similar to the national experience. Initial figures for 2009 indicate little change from 2007 here and across the county.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration & Size: Various Other Private Sector Services



Source: U.S. BEA

VARIOUS OTHER PRIVATE SECTOR SERVICES

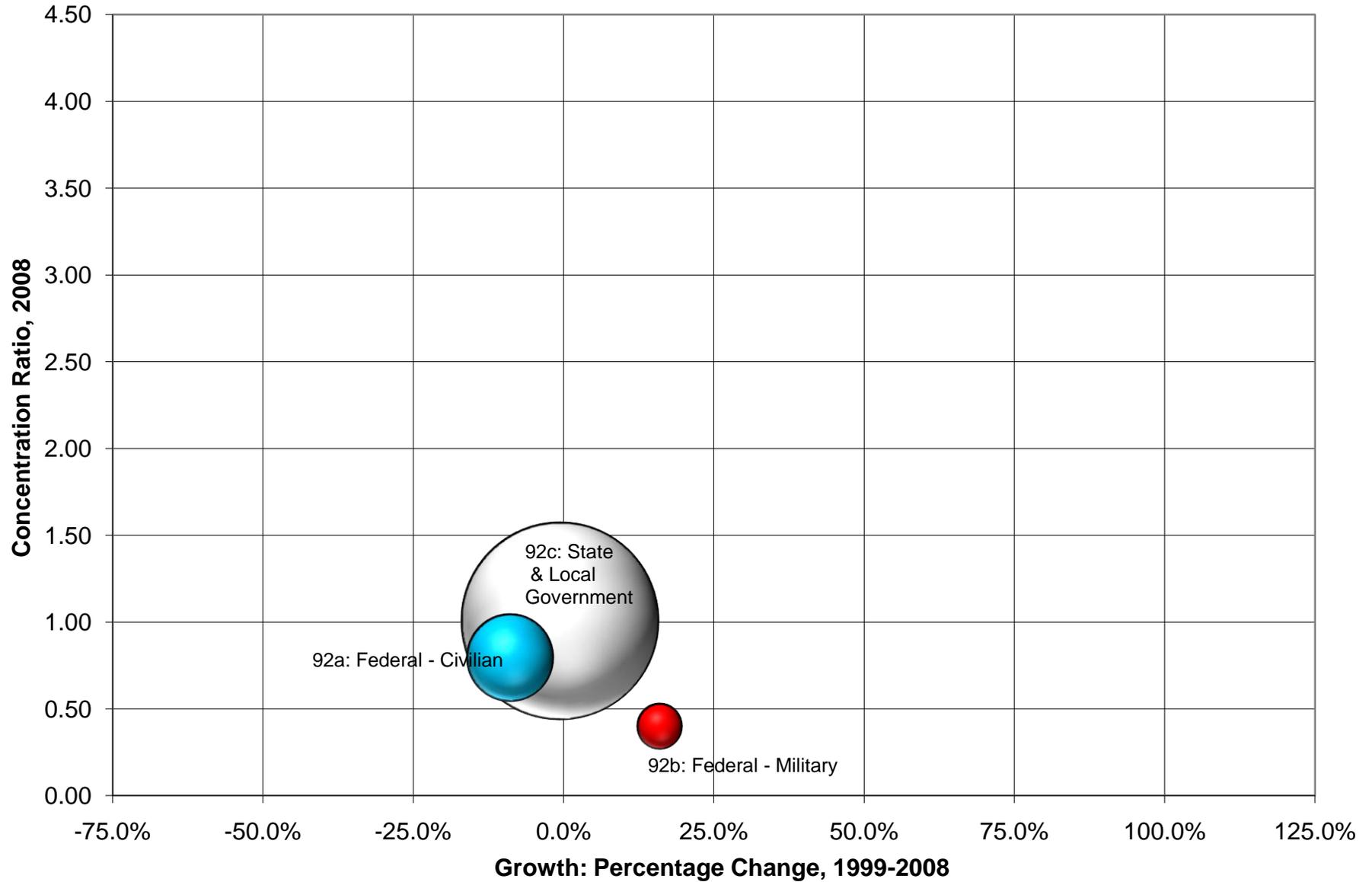
The remaining private sector services are not concentrated in Ohio. While places serving food and drink (NAICS 722) and other services overall (81) are proportional with those throughout the country, those providing accommodations (721), amusements, gambling, recreation, or arts-related activities (711-713) are relatively sparse. County Business Patterns data point to a few exceptions where services may be concentrated: rooming and boarding houses (7213), limited service eating places (7222), commercial equipment repair and maintenance (8113 – motor vehicle and electrical equipment repair are classified elsewhere), personal care such as hair, nails, or dieting (8121), funeral homes and cemeteries (8122), and civic and social organizations (8134) (U.S. Bureau of the Census, 2010a).

Activity in performing arts-museums-etc. in Ohio has fluctuated at lower levels since the high point in 1999. The same may be said of amusements, gambling, and recreation after 2000. On the other hand, the expansion of food services and drinking places, though not steady, kept pace with the economy as a whole from 1999 through 2008. Accommodation services have fluctuated, but are essentially unchanged since 1999. Other non-governmental services (81) have not recovered to pre-2001-recession levels. The national experiences of these industries were more positive, except for other non-governmental services – which was off 4.8 percent.

Initial figures for 2009 show reduced activity in Ohio after 2007 and/or 2008 . This also is true for the country as a whole, with the exception arts-entertainment-recreation, which is little change since 2007.

See Tables A2, A5, A9, A11-A14, A16

Ohio GDP: Growth, Concentration & Size: Government by Type



Source: U.S. BEA

FEDERAL, STATE, AND LOCAL GOVERNMENTS

Taken together, the services provided by federal, state and local government agencies verge on the sparse side in Ohio. However, the graph above illustrates the differences between three parts of the sector. The vast majority of services provided by government agencies here are accomplished by state and local agencies. A concentration ratio close to 1.00 means that services provided by the state and local governments here collectively are in the middle of the range of those provided in other states. Such services have fluctuated usually between \$38 and \$40 billion, with essentially no net change from 1999 to 2008.

This is a distinct contrast with the federal government. The civilian part of the federal government – including the Postal Service (Downey and Aman, 2006) – plays a relatively small role in the state’s economy. The military’s role is even smaller, despite the presence of facilities such as the Defense Supply Center (Columbus), Wright-Patterson Air Force Base (Dayton), and two Defense Finance and Accounting Service centers (Cleveland and Columbus). Data from other sources are consistent with GDP figures; in 2007, 2.16 percent of the value of Defense Department contracts went to firms in Ohio, 2.21 percent of the Defense Department’s payroll went to Ohio (certain benefits are excluded), and in 2006 civilian and military personnel numbered 28,534 – 1.59 percent of total Defense employment (U.S. Bureau of the Census, 2009: tables 494 and 496). Military activity in Ohio increased for a few years after 2001, and then dropped off a little; it remains 16 percent higher than in 1999. On the other hand, the larger civilian services have gradually decreased by 8.8 percent since 1999.

Initial figures for 2009 show slight increases from 2007 in total governmental services here and across the country.

See Tables A2, A5, A9, A11-A14, A16

Gross Domestic Products for Metropolitan Areas in Ohio, 2001-2008
(in millions chained dollars standardized on 2001, except percentages)

State/Metropolitan Area	2001	2002	2003	2004	2005	2006	2007	2008	Real Change	
									Amount	Percent
U.S.*	\$10,218,000	\$10,394,321	\$10,616,858	\$10,980,830	\$11,288,246	\$11,595,212	\$11,835,192	\$11,852,366	\$1,634,366	16.0%
Ohio*	\$382,640	\$391,163	\$395,009	\$402,606	\$404,786	\$401,136	\$404,978	\$402,113	\$19,473	5.1%
Akron, OH	\$20,729	\$21,366	\$22,021	\$22,600	\$23,229	\$22,998	\$23,131	\$23,214	\$2,485	12.0%
Canton-Massillon, OH	\$10,913	\$10,972	\$11,040	\$11,140	\$11,316	\$10,930	\$10,833	\$10,817	-\$96	-0.9%
Cincinnati-Middletown, OH-KY-IN	\$75,968	\$77,912	\$79,137	\$80,777	\$82,169	\$81,199	\$81,775	\$81,831	\$5,863	7.7%
Cleveland-Elyria-Mentor, OH	\$83,939	\$84,074	\$86,284	\$89,131	\$88,964	\$87,787	\$87,808	\$86,649	\$2,710	3.2%
Columbus, OH	\$69,975	\$71,839	\$72,238	\$73,939	\$75,153	\$75,001	\$75,969	\$76,050	\$6,075	8.7%
Dayton, OH	\$28,550	\$28,972	\$29,104	\$29,488	\$29,800	\$29,950	\$29,688	\$29,096	\$546	1.9%
Huntington-Ashland, WV-KY-OH	\$6,482	\$6,796	\$6,792	\$6,974	\$6,961	\$6,998	\$6,988	\$7,036	\$554	8.5%
Lima, OH	\$3,489	\$3,620	\$3,561	\$3,678	\$3,704	\$3,702	\$3,663	\$3,515	\$26	0.7%
Mansfield, OH	\$3,365	\$3,522	\$3,584	\$3,670	\$3,691	\$3,658	\$3,527	\$3,517	\$152	4.5%
Parkersburg-Marietta-Vienna, WV-OH	\$4,284	\$4,361	\$4,279	\$4,484	\$4,386	\$4,499	\$4,475	\$4,513	\$229	5.3%
Sandusky, OH	\$2,535	\$2,614	\$2,675	\$2,701	\$2,701	\$2,668	\$2,568	\$2,501	-\$34	-1.3%
Springfield, OH	\$3,220	\$3,112	\$3,028	\$3,067	\$3,057	\$3,107	\$3,055	\$3,075	-\$145	-4.5%
Toledo, OH	\$21,671	\$22,326	\$22,725	\$22,868	\$22,830	\$22,723	\$22,539	\$22,087	\$416	1.9%
Weirton-Steubenville, WV-OH	\$2,754	\$2,931	\$2,803	\$2,835	\$2,861	\$2,665	\$2,668	\$2,758	\$4	0.1%
Wheeling, WV-OH	\$3,488	\$3,568	\$3,668	\$3,785	\$3,815	\$3,789	\$3,760	\$3,879	\$391	11.2%
Youngstown-Warren-Boardman, OH-PA	\$14,346	\$14,682	\$14,702	\$14,883	\$15,035	\$14,983	\$14,765	\$14,134	-\$212	-1.5%

Note: * - Revised figures for 2002-2008 generated by PR&SP.

Source: U.S. BEA (2010).

Prepared by: Policy Research & Strategic Planning, Ohio Dept. of Development. Telephone 800/848-1300, or 614/466-2116 (DL, 11/10).

REAL GROWTH IN METROPOLITAN AREAS

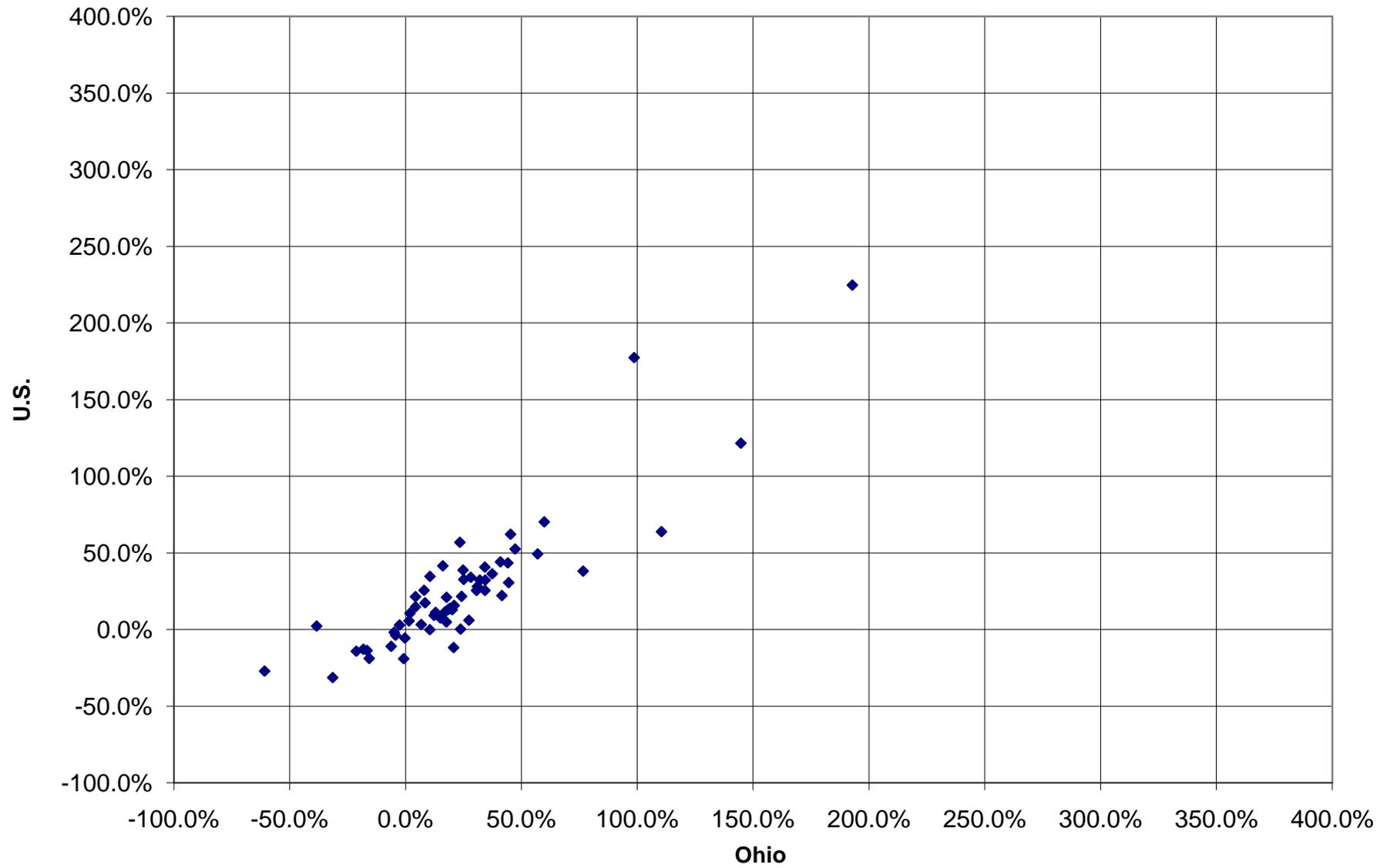
The table above displays changes in economic output from metropolitan areas wholly or partially in Ohio. The figures have been standardized on 2001, thereby removing the effects of inflation. Figures for Ohio and the nation are included for comparison.

Real net growth from 2001 to 2008 is evident in 12 of the 16 metropolitan areas; Canton-Massillon, Sandusky, Springfield and Youngstown-Warren-Boardman are the exceptions. Output from Canton-Massillon and Sandusky peaked in 2005, and has declined since. Output from Springfield and Weirton-Steubenville appears to be fluctuating. The greatest growth in absolute terms occurred in two of the three largest metropolitan areas: Cincinnati-Middletown (including the portions in Kentucky and Indiana) with \$5.86 billion and Columbus with \$6.08 billion. Despite the portions in Kentucky and Indiana, it is probably safe to say that the combined growth of these two accounts for about one-half the economic growth in Ohio since 2001. Adding the net growth of Akron and Cleveland-Elyria-Mentor brings the portion to about 84 percent.

The role of Cincinnati, Cleveland and Columbus in Ohio's economy also accounts for a significant degree for the state's overall growth rate. Their range of rates – from 3.2 to 8.7 percent – encompasses the state's overall rate of 5.1 percent. However, the fastest growth appeared in two other metropolitan areas: Akron: 12.0 percent, and Wheeling: 11.2 percent. It should be noted, though, that none of the metropolitan areas in Ohio even approached the growth rate of the national economy: 16.0 percent.

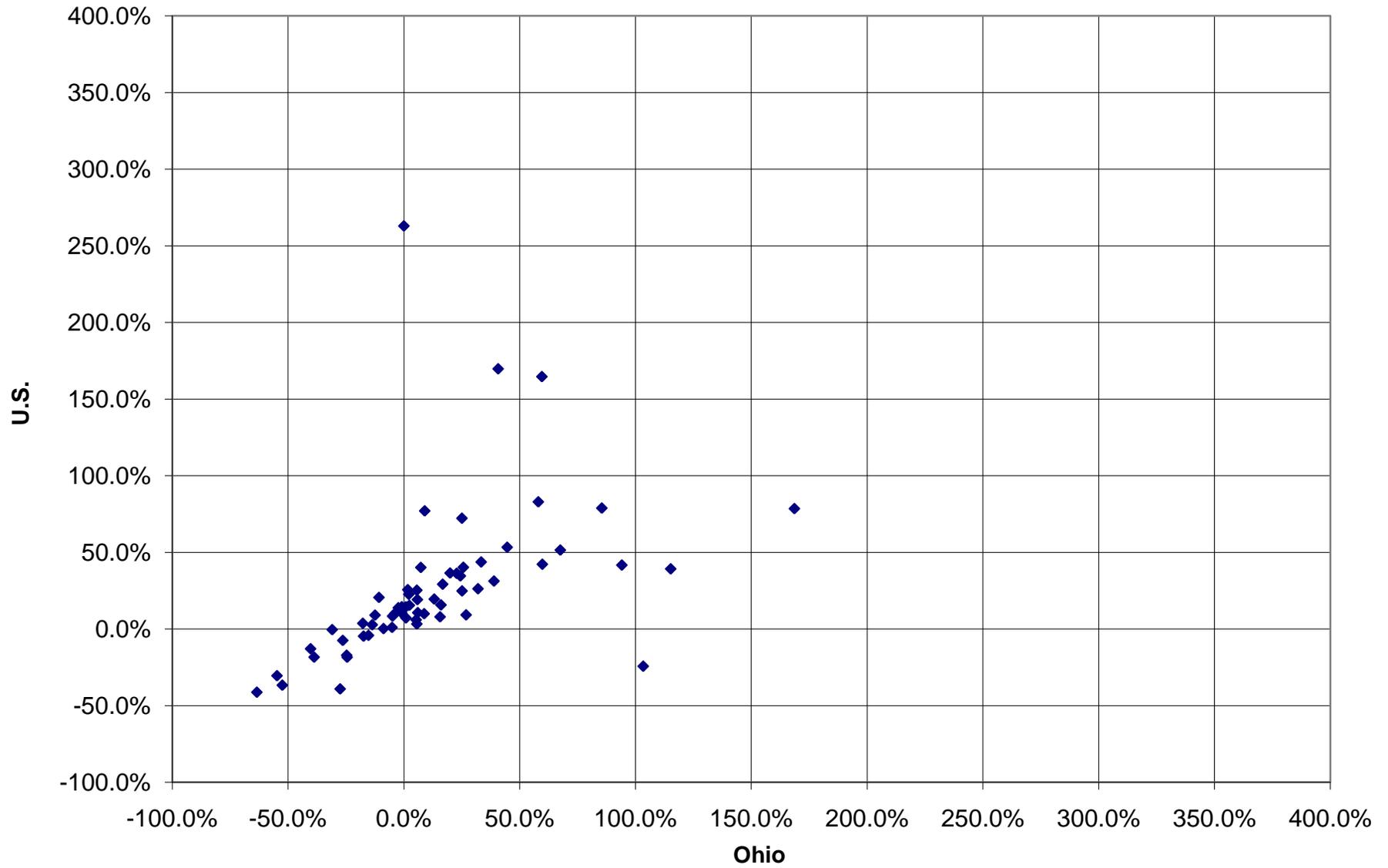
Although real net growth from 2001 through 2008 is evident for 12 metropolitan areas, 2008 was a year in which output slide from 2007 levels in eight metropolitan areas: Canton-Massillon, Cleveland-Elyria-Mentor, Dayton, Lima, Mansfield, Sandusky, Toledo, and Youngstown-Warren-Boardman. In addition, output from Akron, Cincinnati-Middletown, Columbus, Huntington-Ashland, Parkersburg-Marietta-Vienna and Springfield, in comparison with 2007, was either essentially unchanged or about as anemic as the national average of .7 percent. These numbers indicate that the weakness of Ohio's economy in 2008 was widely distributed. Only Weirton-Steubenville and Wheeling were islands of notable growth.

The Association of Percentage Changes in GDP (1990-1997) for Ohio and the U.S.



Source: U.S. BEA

The Association of Percentage Changes in GDP (1999-2008) for Ohio and the U.S.



Source: U.S. BEA

PAST CHANGES AND FORECASTS FOR THE FUTURE

Throughout most of the 1990s, Ohio's overall economic growth nearly matched the nation as a whole. After adjusting for inflation, the volume of goods and services originating in Ohio increased by 22.3 percent from 1990 through 1997. The corresponding national increase was 22.8 percent. Real growth occurred in all sectors of the economy. The growth rate in Ohio was greater than the nation in some sectors: agriculture-forestry-fishing, mining, construction, non-durable goods manufacturing, transportation, wholesale and retail trade, and government services. The growth in Ohio was slower than average in other sectors: durable goods manufacturing, communications, utilities, finance-insurance-real estate, and non-governmental services. (Organizations and individuals were classified using the SIC system in this period.)

Growth continued in the 1999-2009 period, but growth in Ohio was slower than the national average. Ohio's economy grew by 2.6 percent from 1999 to 2000, shrank with the recession of 2001 (growth of -2.0 percent), and grew 5.8 percent from 2001 to 2005. It slipped in 2006, but recovered in 2007 to just above the 2005 level. It has contracted since 2007 (growth of -3.4). The corresponding figures for the U.S. economy were greater: 4.2 percent, 1.3 percent (nationally, the recession was relatively short and mild), 10.5 percent, and -2.0 percent.⁸ (Organizations and individuals were classified using the NAICS in this period.)⁹

Slower growth in Ohio is expected to continue in each of the next four years. Moody's (2010) expects Ohio's economy will contract by 0.9 percent in 2010, but forecasts a turn-around with 0.8 percent growth in 2011, 2.4 in 2012, 3.2 in 2013, and 2.1 in 2014. It originally expected the U.S. economy to grow 2.7 percent in 2010 (although it recently stated growth in 2010 has been closer to 2.0 percent), with 3.0 percent growth in 2011, 5.0 in 2012, 4.3 in 2013, and 2.8 percent in 2014. Moody's believes a number of factors may contribute to Ohio's lagging recovery: the continued restructuring of the motor vehicle industry, a comparatively heavy reliance on secularly declining manufacturing industries, a shift toward lower wage jobs, and slow population growth (the last may dampen the growth service sector jobs).

The disjuncture between Ohio's experience and that of the nation should not be over-emphasized. The charts on pages 50 and 51 – the first covering 1990-1997, the second covering 1999-2008 – illustrate close associations between changes in industry output in Ohio with corresponding changes at the national level.¹⁰ This means that what was happening in one was a fairly reliable indicator of what was happening in the other; faster-growing industries in one much more often than not were faster-growing industries in the other. The same generalization conversely applies to slower-growing or contracting industries.

The close ties of Ohio's economy with the nation's mean that forecasts for industries and the economy as a whole may serve as approximations of what to expect here.¹¹ During the long term of 2008 through 2018, Woods (2009), a U.S. Department of Labor economist, forecasts an average annual growth rate of 2.8 percent. As has been true in the past,

some sectors may be expected to grow at faster rates than others. The faster ones are expected to be wholesale and retail trade, information, finance and insurance, professional-scientific-technical services, managing companies and enterprises, administrative support-waste management-remediation, and health care and social assistance. In this context, it is worth noting several things. Enterprise management, health care and social assistance, and finance and insurance are all concentrated in Ohio, but enterprise management – the most concentrated – is a small sector. Furthermore, wholesale and retail trade are only faintly concentrated here, while professional-scientific-technical services and administrative support-waste management-remediation are relatively sparse.

See Tables A17-A20

