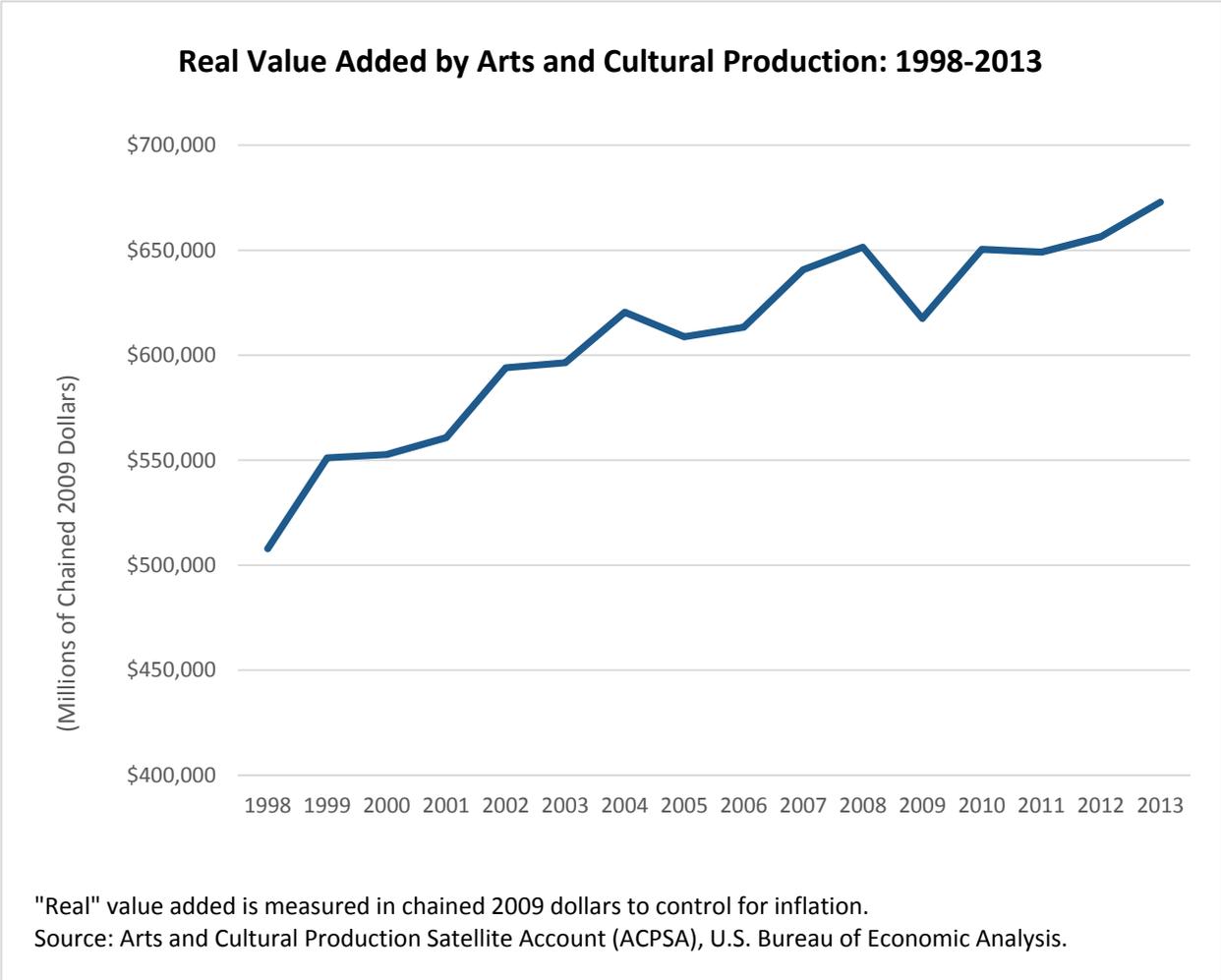


# U.S. Arts and Cultural Production Satellite Account: Issue Brief #2

## TRENDS IN ARTS AND CULTURAL PRODUCTION (1998-2013)

In 2013, arts and cultural production contributed \$704.2 billion to the U.S. economy, or 4.2 percent of GDP. Between 1998 and 2013, real (i.e., inflation-adjusted) value added by arts and cultural production grew by \$165 billion, or 32.5 percent.

Over the 1998-2013 timeframe, the average annual growth rate in the real value added by arts and cultural production was 1.8 percent, comparable to the 1.9 percent growth rate generated by the total U.S. economy during that period.<sup>i</sup>

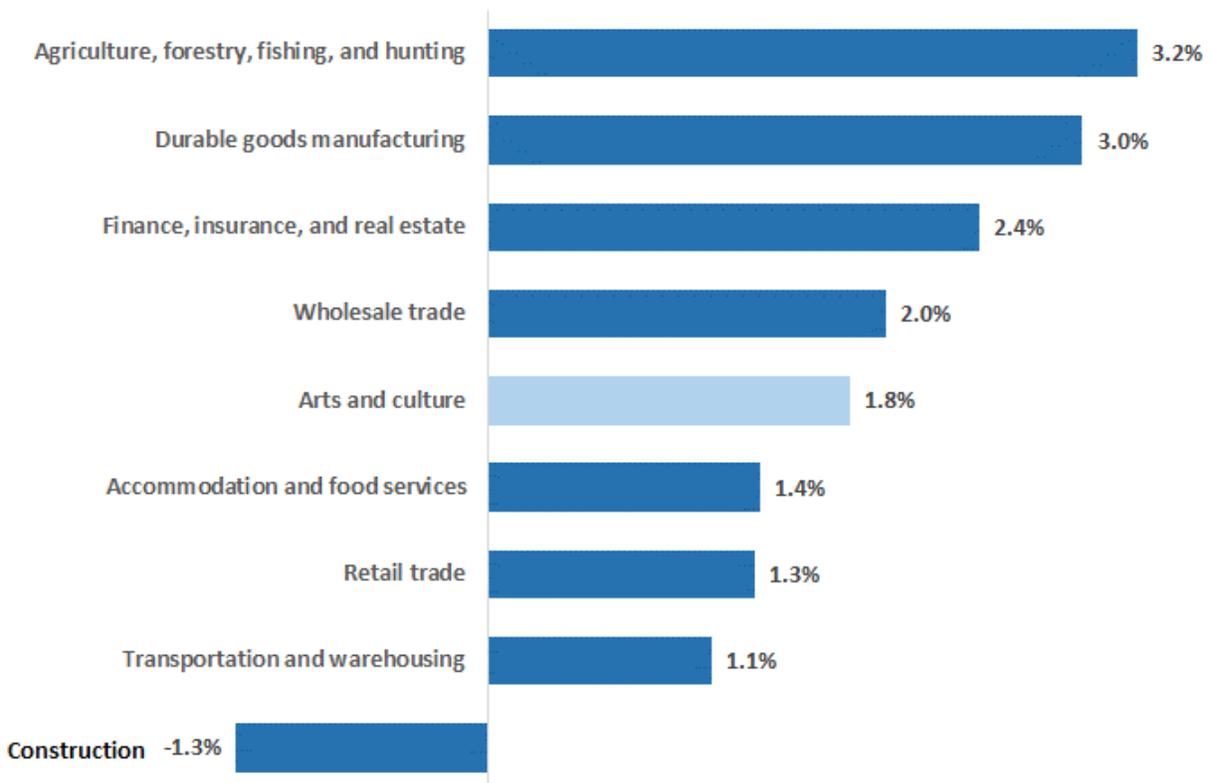


### Growth in Real Value Added by Selected Sectors

Over the 1998-to-2013 time period, average annual growth rates in real value added by the arts and cultural sector surpassed those for: accommodation and food services (1.4 percent); retail trade (1.3 percent); transportation and warehousing (1.1 percent); and construction, which declined by 1.3 percent over this timeframe.

However, growth in the arts and cultural sector was outperformed by faster-growing sectors such as: agriculture, forestry, fishing, and hunting (3.2 percent); durable goods manufacturing (3.0 percent); and finance, insurance, and real estate (2.4 percent).

**Average Annual Growth Rates of Real Value Added by Selected Sectors: 1998-2013**



"Real" value added is measured in chained 2009 dollars to control for inflation.

Data source: GDP by Industry, Industry Economic Accounts, U.S. Bureau of Economic Analysis.

## Fast-Growing Industries Producing Arts and Cultural Goods and Services

Although real value added by the overall arts and cultural sector averaged 1.8 percent between 1998 and 2013, a number of industries producing those commodities grew at faster rates.

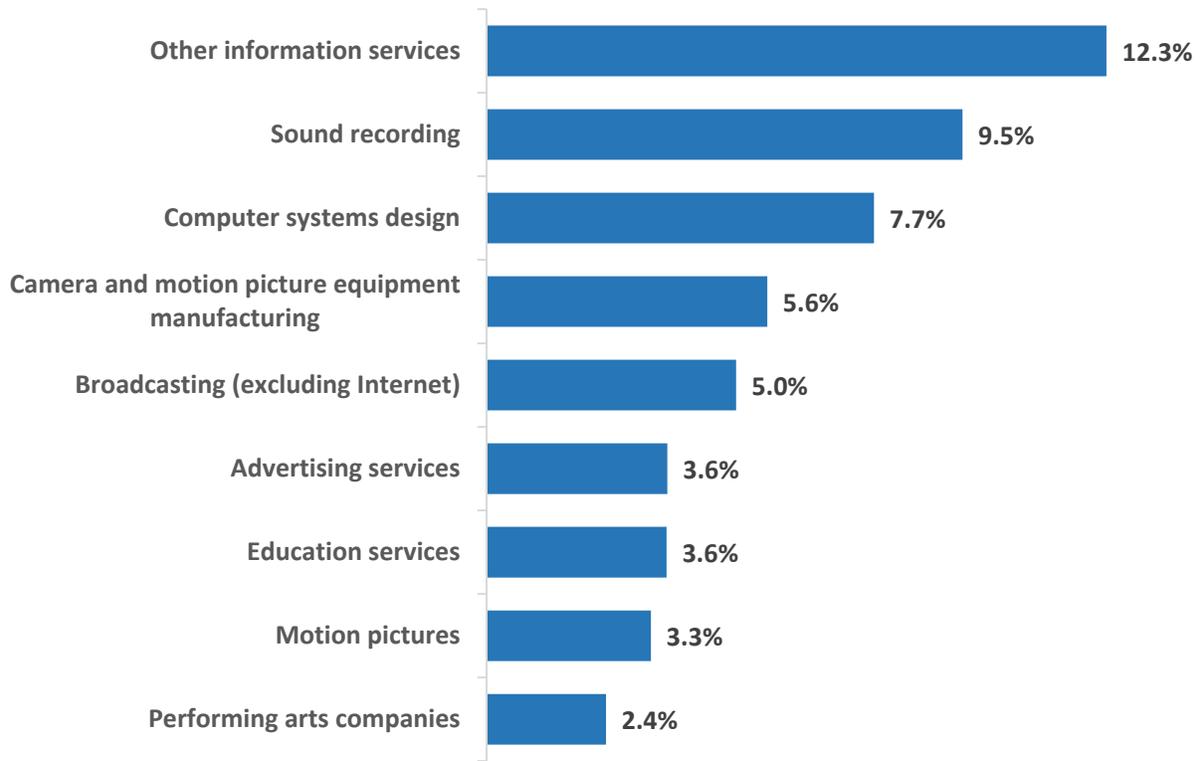
Among all industries producing arts and cultural commodities, the fastest growing was “other information services,” an industry that includes online publishing and broadcasting.<sup>ii</sup> The average growth rate in real value added by other information services was 12.3 percent during the 1998-2013 time period.

Other industries posting fast growth in arts-and-cultural value added were sound recording and arts-related computer systems design.<sup>iii</sup> Over the 16-year period, growth rates in arts-and-cultural-real value added by those two industries were 9.5 and 7.7 percent, respectively.

Growth in real arts and cultural value added was also strong among camera and motion picture equipment manufacturers, broadcasting (excluding Internet), advertising services, and “educational services,” an industry comprising private, non-government K-12 schools and colleges and universities. Between 1998 and 2013, the average annual growth rate in real arts-and-cultural value added by private educational services was 3.6 percent.

At the other end of that scale were industries in which real value added by arts and culture decreased. For example, in building new arts and cultural structures, the construction industry’s real value added fell by an average annual rate of 5.5 percent between 1998 and 2013. Over that same time period, arts and cultural value added fell by 2.4 and 1.6 percent, respectively, for governments and for the fine arts education industry.<sup>iv</sup>

### Fast-Growing Industries by Average Annual Growth Rates of Real Value Added from Arts and Culture: 1998-2015



Notes: "Other information services" include Internet publishing and broadcasting; computer systems design refer to designs supporting sound recording and motion picture production. Education services consist of private K-12 schools and colleges and universities.

Data source: Arts and Cultural Production Satellite Account (ACPSA), U.S. Bureau of Economic Analysis.

## Understanding Real Value Added

As defined by the Bureau of Economic Analysis, the value added of an industry is the contribution of a private industry or government sector to overall GDP. Value added equals the difference between an industry's gross output (consisting of sales or receipts and other operating income, commodity taxes, and inventory change) and the cost of its intermediate inputs, including energy, raw materials, semi-finished goods, and services that are purchased from all sources.

$$\text{Value Added} = \text{Gross Output} - \text{Intermediate Inputs}$$

*Real* value added is calculated by deflating both gross output and intermediate inputs using price indexes for both variables (at the commodity level), hence the term "double deflation."

$$\text{Real Value Added} = (\text{Gross Output}/\text{Price Index}) - (\text{Intermediate Inputs}/\text{Price Index})$$

Consequently, an industry's real value added is affected not only by how much it produces and the inputs it uses, but also by the prices of these variables. Moreover, real value added by industry reflects a "multi-productivity residual," i.e., the combined productivity of all inputs.

To illustrate, real *gross output* of all ACPSA commodities grew by an annual average rate of 1.2 percent between 1998 and 2013. Over that same time period, real gross output of arts-related software publishing (e.g., computer games, and photo-processing and computer-assisted design software) increased by 9.7 percent. In turn, growth in real *value added* by the publishing industry grew, on average, by 2.1 percent. In other words, the publishing industry's contribution to the U.S. economy grew, in large part, because the industry published more arts-related software. (Over the 1998-2013 time period, real gross output of published books and of published newspapers and periodicals declined by 1.5 percent and 2.9 percent, respectively.)

Alternatively, real gross output of fine arts education (non-academic art classes) grew by 2.2 percent over the 16-year period. But real value added by the fine arts education *industry* (which provides most non-academic art classes) declined by an average of 1.6 percent. Although the industry was providing more art classes, its real contribution to U.S. GDP actually fell.

This outcome may have stemmed, at least in part, from rising business costs for the fine arts education industry. The fine arts education industry is part of the larger industry grouping, "other schools and instruction." Through its Business Expenses Program, the U.S. Census Bureau reports that between 2009 and 2013, business expenses incurred by the "other schools and instruction" industry increased by nearly 30 percent.

Given that most fine arts education schools are small establishments (95 percent employ fewer than 20 workers), it is possible that the cost of leasing commercial space has cut into the *real* value added by fine arts schools. According to the [Small Business Administration](#), the cost of leasing commercial spaces is a major expense for small businesses.

The average annual growth rates in real value added (real GDP) is calculated as:

$$[(GDP_t / GDP_0)^{1/n} - 1] * 100$$

Where:

GDP<sub>t</sub> is ending value (2013)

GDP<sub>0</sub> is beginning value (1998)

n is the number of years, 16 between 1998 and 2013

<b>Growth in Value Added: 1998-2013</b>		
	Arts and cultural value added in 2013 (millions)	Average annual growth rates of real value added by arts and culture: 1998-2013
Total arts and cultural value added	\$704,196	1.8%
Arts and cultural value added by:		
<i>Fast-growth industries</i>		
Other information services	\$30,369	12.3%
Sound recording	\$13,845	9.5%
Computer systems design	\$2,992	7.7%
Camera and motion picture equipment manufacturing	\$335	5.6%
Broadcasting (excluding Internet)	\$117,447	5.0%
Advertising services	\$29,336	3.6%
Education services <sup>1</sup>	\$4,738	3.6%
Motion pictures	\$100,119	3.3%
Performing arts companies	\$8,466	2.4%
<i>Medium-growth industries</i>		
Publishing (excluding Internet)	\$80,369	2.1%
Museums <sup>2</sup>	\$4,836	2.0%
<i>Declining industries</i>		
Construction	\$9,439	-5.5%
Government	\$96,063	-2.4%
Fine arts education	\$2,941	-1.6%
Photographic services	\$8,852	-1.5%
Graphic design services	\$6,874	-1.0%
Industrial design services	\$1,459	-1.0%
<sup>1</sup> Private K-12 schools and universities.		
<sup>2</sup> Non-government museums.		
Data source: Arts and Cultural Production Satellite Account (ACPSA), U.S. Bureau of Economic Analysis.		

<sup>i</sup> "Real" value added is measured in chained 2009 dollars to control for inflation.

<sup>ii</sup> "Other information services" include: online publishing and broadcasting (e.g., streaming) and web portals; news picture and distribution services; archives and libraries, including film and music archives; and stock photography services.

<sup>iii</sup> Arts-related computer systems design supports motion picture and sound-recording production.

<sup>iv</sup> See text box, "Understanding Real Value Added."