U.S. Arts and Cultural Production Satellite Account: Issue Brief #6

Arts and Cultural Contributions to the Creative Economy

One commonly accepted proxy of the "creative economy" is the amount of economic value represented by intellectual property. For the purpose of this Issue Brief, we define the creative economy as value added by those industries identified as copyright-intensive by the U.S. Patent and Trademark Office.[i]

In 2013, copyright-intensive industries contributed $887 billion to the U.S. economy. Of that value, nearly half ($435 billion) stemmed from the production of arts and cultural goods and services. In other words, the arts and cultural sector represents almost half of the U.S. copyright-intensive creative economy.

Moreover, the creative industries are among the fastest growing producers of arts and cultural goods in services. Between 1998 and 2013, copyright-intensive industries, in producing arts and cultural commodities, grew at an annual average rate (adjusted for inflation) of 3.5 percent—a rate well above the growth rate of 1.8 percent generated from all Arts and Cultural Production Satellite Account (ACPSA) production over that time period.

The Production of Arts and Cultural Goods and Services Vs. All Production by Copyright-Intensive Industries

To understand the role of arts and cultural production in the creative economy, consider publishing, which is defined as a copyright-intensive industry by the USPTO. This industry comprises the publishing of newspapers and periodicals; books; other paper publishing such as art prints and calendars; directories; and, notably, software. Total value added by the publishing industry was $199 billion in 2013.

The ACPSA, however, excludes the publishing of directories and it restricts software publishing to games and arts-related software such as photo-processing software and CAD (computer-assisted design software). Consequently, ACPSA publishing is a fraction of the industry's total output and value added. In 2013, value added by ACPSA publishing was $80.4 billion—or 40 percent of the publishing industry's total value added.

In 2013, the computer system design industry generated value added of $128.1 billion. Because the ACPSA includes only computer system designs supporting motion picture and sound recording production, it claims just 2.3 percent ($3.0 billion) of the industry's total value added.

ACPSA broadcasting, which excludes sports broadcasts, composes 45 percent of total value added by the broadcasting industry.

Conversely, virtually all value added by copyright-intensive industries such as the performing arts and motion pictures are counted as arts and cultural and are part of ACPSA value added.

In 2013, the arts and cultural share of the creative industries' value added was $435 billion—nearly half of all value added by the creative industries.

Value Added by Copyright-Intensive Industries, 2013

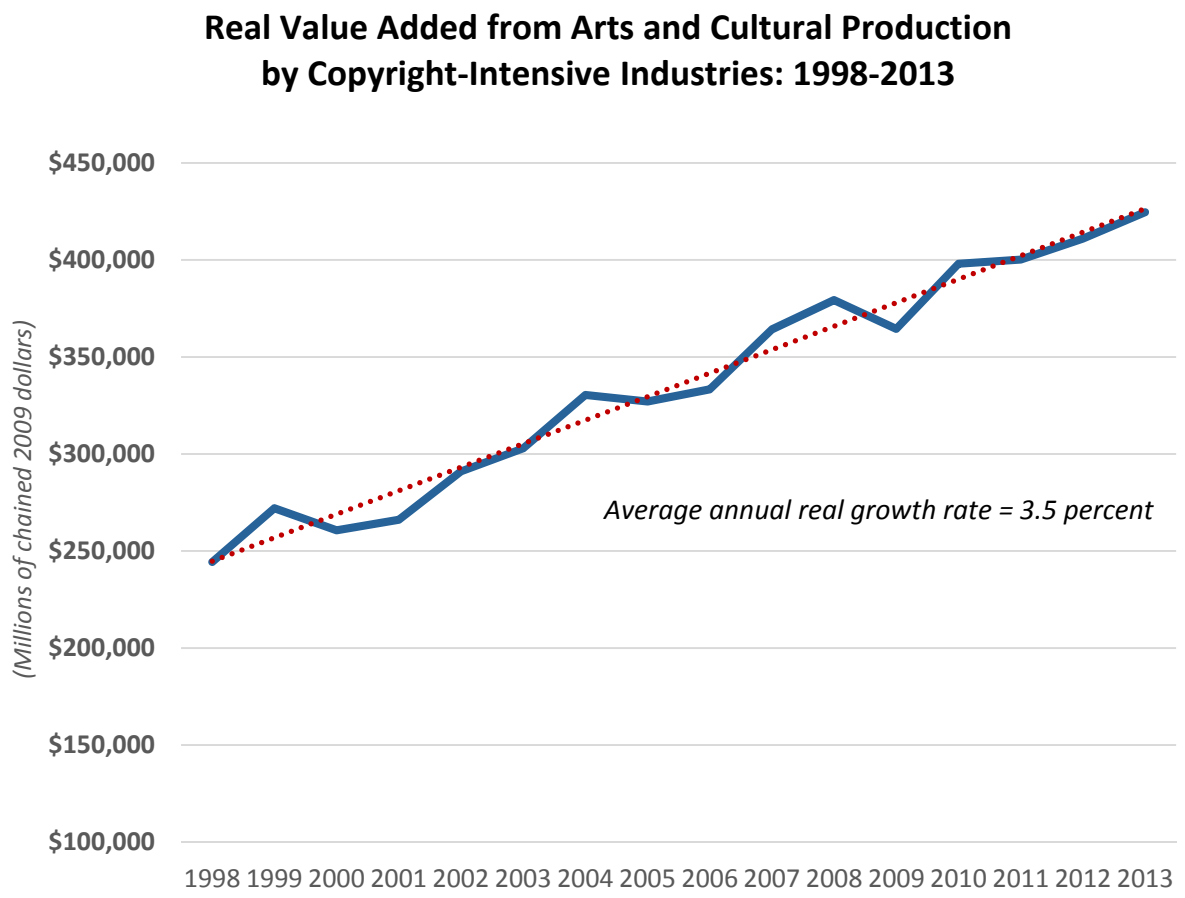
	Total value added (millions $)	Value added from arts and cultural production (millions $)
Total copyright-intensive industries	$887,269	$434,994
Broadcasting	$263,326	$117,447
Motion pictures	$100,995	$100,119
Publishing	$199,041	$80,369
Performing arts companies and independent artists, writers, and performers	$38,300	$36,043
Other information services[1]	$34,239	$30,369
Advertising agencies	$83,200	$29,336
Specialized design	$17,098	$15,622
Sound recording	$13,885	$13,845
Photographic services	$9,054	$8,852
Computer systems design	$128,131	$2,992

[1]Includes Internet publishing and broadcasting.

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

Fast-Growing Copyright-Intensive Production of Arts and Cultural Services

Production of arts and cultural goods and services by creative industries grew more strongly than overall arts and cultural production. Between 1998 and 2013, real (inflation-adjusted) ACPSA value added by copyright-intensive industries grew at an annual average rate of 3.5 percent.[ii] Over the same period, real value added from all arts and cultural production grew at a rate of 1.8 percent.



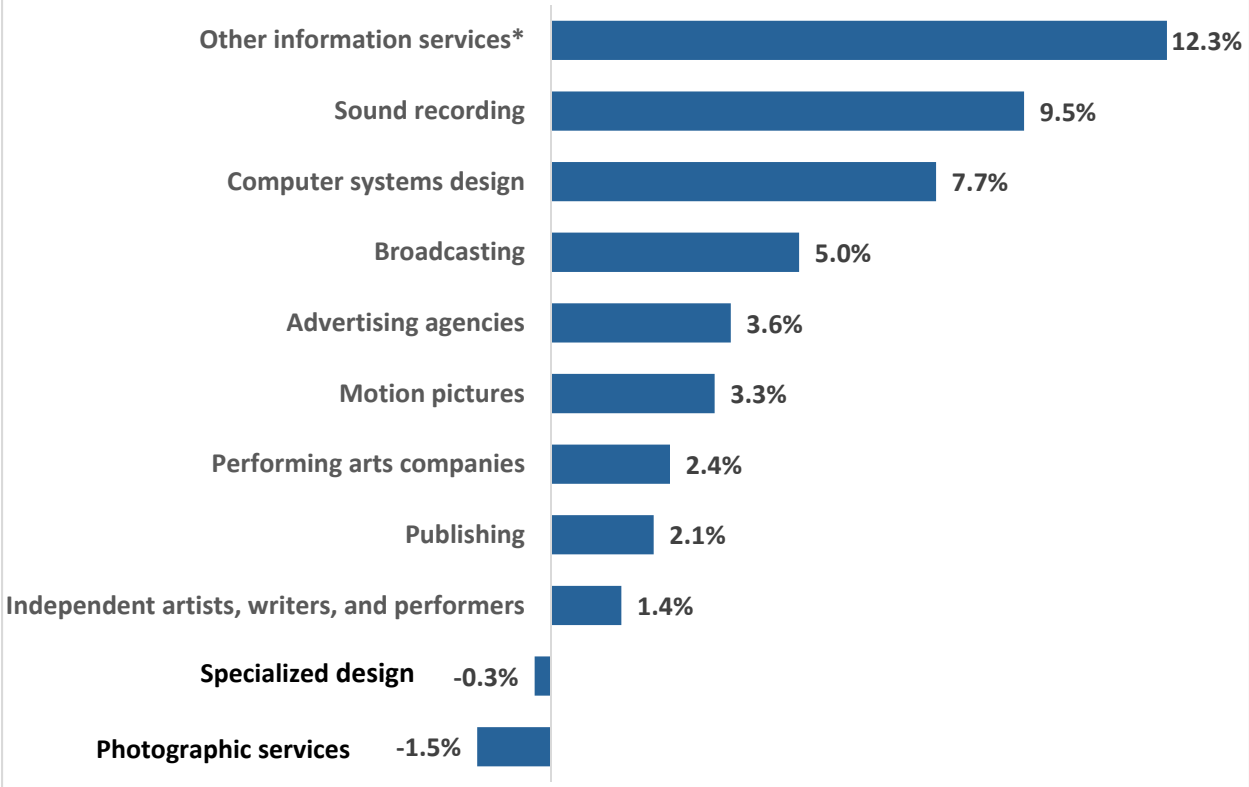
Data source: Arts and Cultural Production Satellite Account (ACPSA), U.S. Bureau of Economic Analysis.

Strong performance in copyright-intensive arts and cultural production was driven, in particular, by high growth in ACPSA production by "other information services" (an industry that includes Internet publishing and broadcasting, including streaming services), sound recording, computer systems design, and broadcasting.

Between 1998 and 2013, for example, the average real growth rate of ACPSA value added by other information services was 12.3 percent—the single fastest-growing rate among *all* ACPSA industries. At the same time, arts and cultural value added by computer systems design grew at an average rate of 7.7 percent, while broadcasting grew at a rate of 5.0 percent.

In fact, arts and cultural value added by most copyright-intensive industries grew at rates greater than that of total ACPSA production (1.8 percent). The exceptions were independent artists, writers, and performers, which grew at a rate of 1.4 percent, and specialized design and photographic services, which decreased by rates of 0.3 percent and 1.5 percent, respectively.

Average Annual Growth Rates of Real Arts and Cultural Value Added: 1998-2013



"Real" value added is measured in chained 2009 dollars to control for inflation.
* Includes Internet publishing and broadcasting.
Data source: Arts and Cultural Production Satellite Account (ACPSA), U.S. Bureau of Economic Analysis.

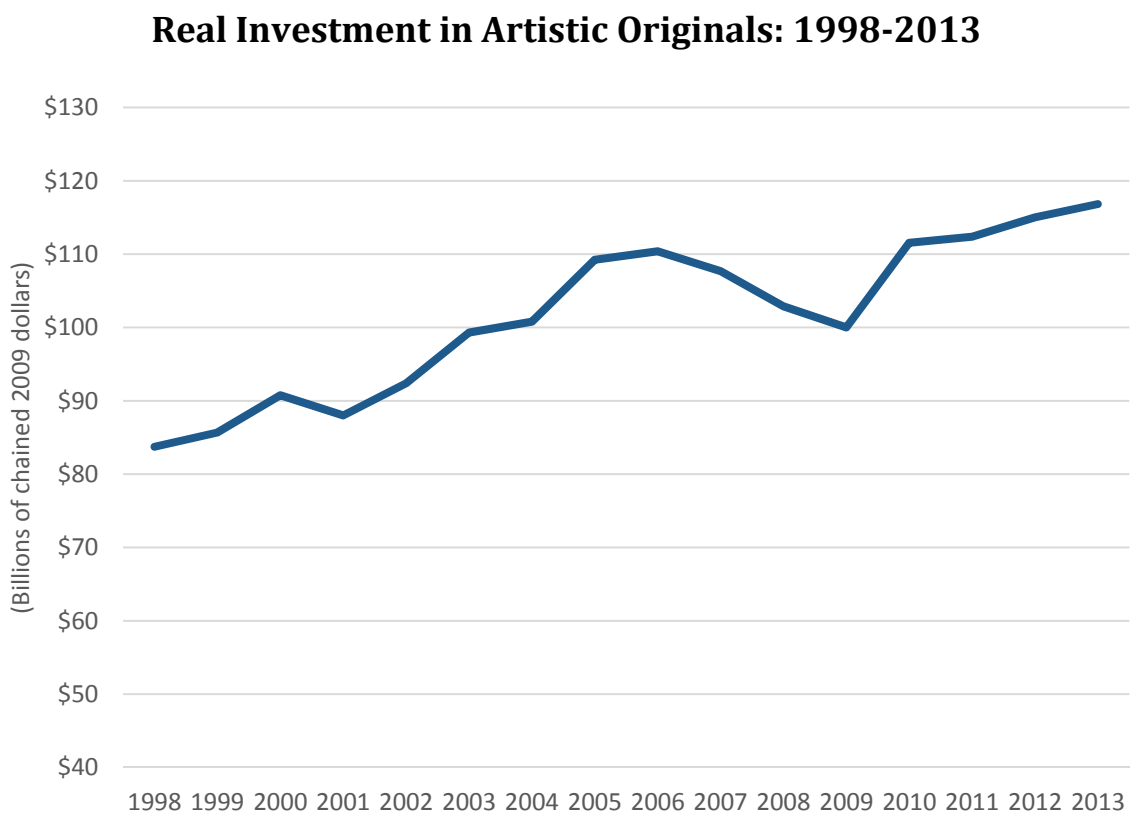
Arts and Cultural Production as Investment

Historically, private fixed assets were in the form of physical capital (i.e., plant and equipment assets). In more recent years, however, the BEA has expanded its definition of investment to include the capitalization of intangible assets.

For example, software development was first counted as fixed private investment in 1999. And in 2013, the national income and product accounts (NIPAs) were revised to include research and development expenditures as investment.[iii]

Also in 2013 was the BEA revision that capitalized "entertainment originals." Entertainment originals refer to theatrical movies; long-lived television programs; books; music; and other "miscellaneous entertainment" such as scripts and scores for the performing arts, greeting card designs, and stock photography.[iv]

The growth in the production of copyright-intensive services described above is reflected in the upward trend in real investment in entertainment originals.[v] In 1998, for example, investment in entertainment originals was $48.3 billion. In 2013, that investment rose to $75.7 billion. After adjusting for inflation, real investment in entertainment originals grew by $33 billion.



"Real" investment in entertainment originals was estimated by the NEA's Office Research & Analysis by applying chain-type quantity indexes for investment in private fixed assets to BEA's reported current-dollar investment in entertainment originals.

However, like the concept of "real" value added by industries, growth in "real" investment can reflect additional investment, of course, but it can also be shaped by price changes.

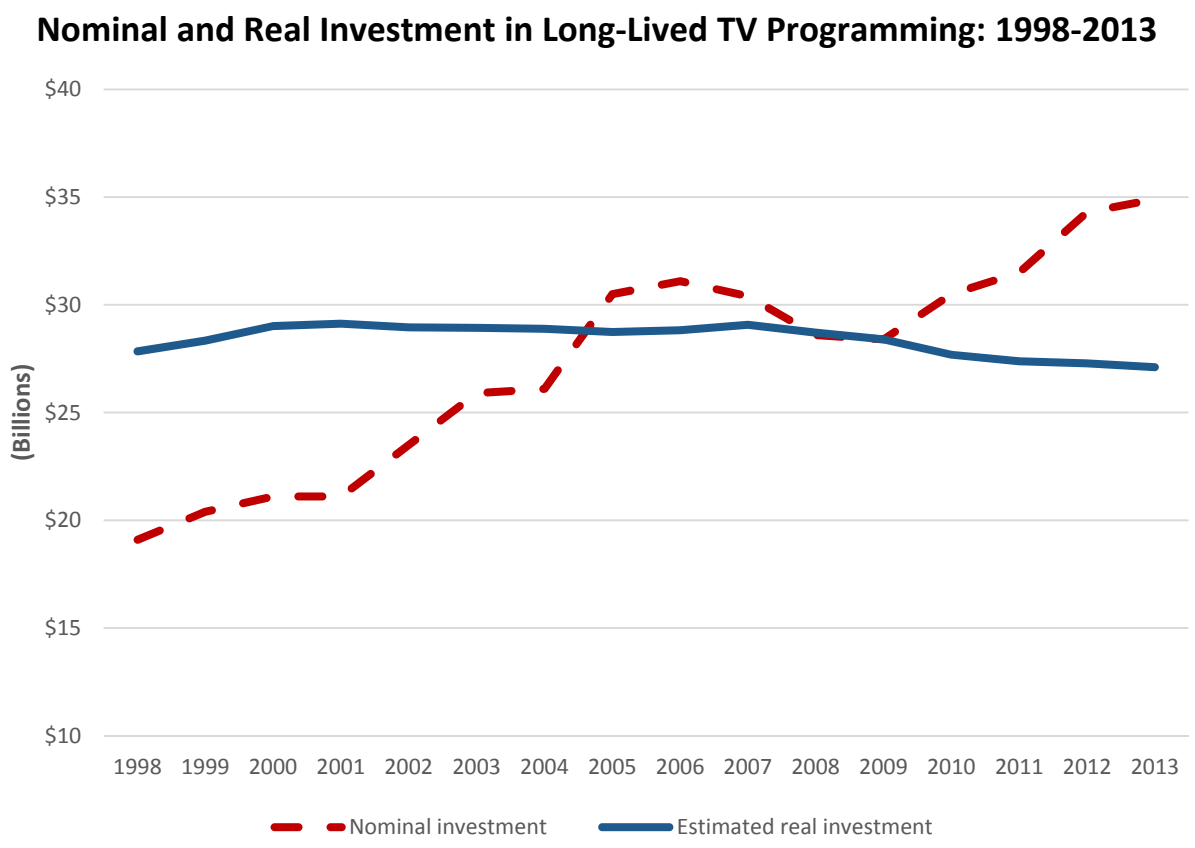
For example, unadjusted for inflation, investment in long-lived TV programs, which make up the greatest share of entertainment originals, grew from $19.1 billion in 1998 to $34.9 billion in 2008. Over that period, however, the BEA's price index for investment in TV programs grew from 68.6 to 128.8. As a result, investment in long-lived TV programs exhibited no "real" growth between 1998 and 2013.

A very different pattern is evident in investment in new music. Unadjusted for inflation, nominal investment in new music declined between 1998 and 2003. But the investment price index for music investment fell by a greater factor, resulting in "real" growth in music investment.

In nominal dollars, investment in music was 6.5 billion in 1998. And although it grew somewhat in subsequent years, music investment returned to 6.5 billion in 2013. Over that period,

however, falling price indexes resulted in “real” gains in investment in new music, which grew by an estimated $1.4 billion from 1998 to 2013.

Falling price indexes for new music investment parallel falling business costs in the sound recording industry, discussed below.



"Real" investment in entertainment originals was estimated by the NEA's Office of Research & Analysis by applying BEA's chain-type quantity indexes to the agency's reported estimates of nominal investment.
Data sources: Investment in Private Fixed Assets, Equipment, Structures, and Intellectual Property Products by Type, U.S. Bureau of Economic Analysis.

The Paradox of the Sound Recording Industry

As discussed above, sound recording is among the fastest-growing industries producing arts and cultural goods and services. Between 1998 and 2013, the average annual growth rate in real value added by the sound recording industry was 9.5 percent—6 percentage points greater than the growth rate for all copyright-intensive industries.

However, behind strong growth in real value added lies a complex interplay between production (gross output) and expenditures by the industry that produces sound recording services such as music recordings and music publishing.

To illustrate, between 1998 and 2009, "real" gross output—measured as the revenue derived from producing sound-recording services—remained constant at roughly $20 billion.

Similarly, sound recording's value added (which is its gross output minus material costs and certain taxes on production) was largely flat between 1998 and 2005. But in 2006, real value added began to increase strongly. In 2006, the industry's value added increased by $2 billion over the 2005 value, and in 2007, it added $3.1 billion (after adjusting for inflation). Large year-over-year gains also occurred for much of the period leading up to 2013.

At first glance, this occurrence—no growth in output, yet growth in value added—seems contradictory. However, *real* value added by an industry is affected not only by how much it produces, but also by the expenses it incurs to produce services.[vi]

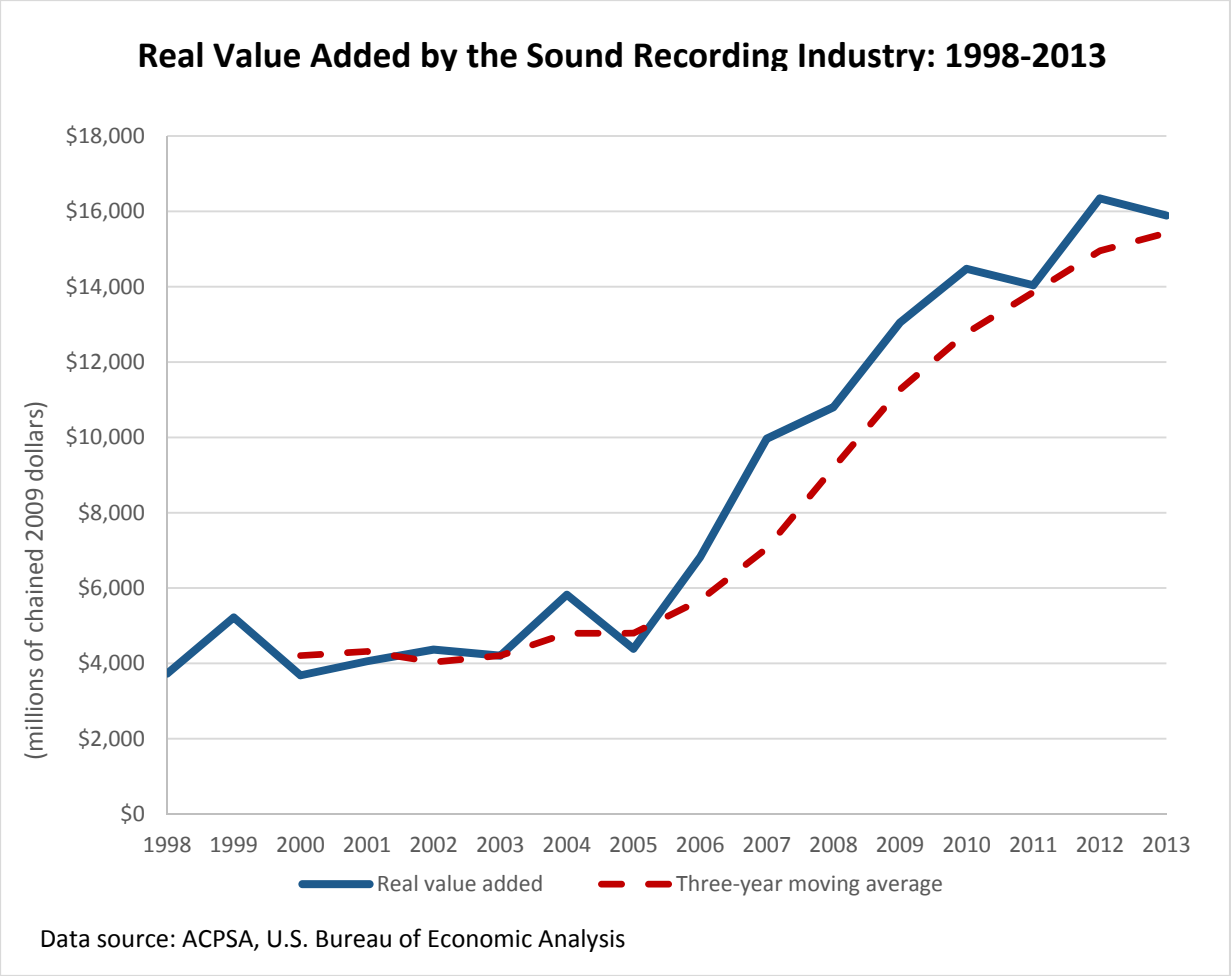
Drawing on the Service Annual Survey, the U.S. Census Bureau reports declining expenses for the sound recording industry during the period examined. Therefore, the gains in real value added by the sound recording industry, from 2006 through 2009, appear to be due to decreasing business expenses, not to increasing production.

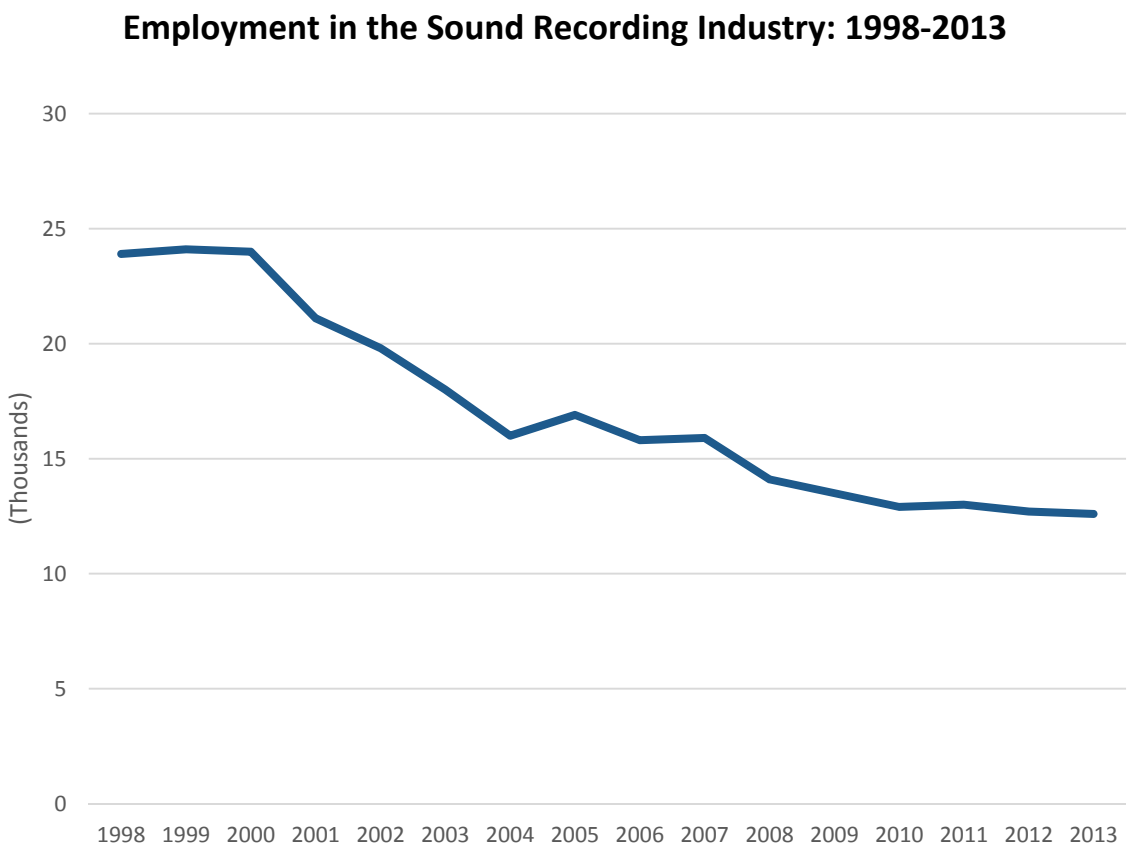
Business expenses reported by the industry continued to fall in 2010 through 2013, which again contributed to gains in the sound recording industry's real value added. But the years spanning 2010 to 2013 also witnessed an uptick in real gross output. In 2010, real gross output by the industry increased to $21.4 billion, and by 2013, production was $26.9 billion.

Despite years of near flat-level production, the sound recording industry's real value added has increased, largely because business expenses fell throughout the 1998-2013 time period. In recent years, however, sound recording's contribution to U.S. GDP has continued to rise, not only because of falling expenses, but because the industry has started to produce more.

Like other industries in the information sector, the sound recording industry is characterized by rapidly changing technology and by consolidation. Consistent with consolidation, for example, is declining employment in the industry. While real value added by the sound recording industry has grown demonstrably, the number of workers employed to produce sound recording services has fallen.

In short, technological advancements and consolidation have likely contributed to the reduced business costs and the increased revenue evident in both gross output and value added by the sound recording industry.


Real Value Added by the Sound Recording Industry: 1998-2013
$18,000
$16,000
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
(millions of chained 2009 dollars)
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Real value added
Three-year moving average
Data source: ACPSA, U.S. Bureau of Economic Analysis



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

[i] There are slight differences between the USPTO list of copyright-intensive industries and the ACPSA creative industries considered in this analysis. The USPTO list, which adheres to NAICS codes, defines "other professional, scientific, and technical services" as photography and translation services. ACPSA industries, alternatively, are derived from arts and cultural commodities and exclude translation services. Additionally, ACPSA photographic services include photo-processing services (except one-hour photo processing). For more information on USPTO-defined copyright-intensive industries, see the March 2012 publication, Intellectual Property and the U.S. Economy: Industries in Focus.
For an additional definition of copyright-intensive industries, see the 2006 report, National Studies on Assessing the Economic Contribution of the Copyright-Based Industries, World Intellectual Property Organization.
[ii] "Real" refers to estimates measured in chained 2009 dollars to control for inflation.
[iii] For more information, see Marissa J. Crawford, et. al., in Measuring R&D in the National Economic Accounting System, November 2014, *Survey of Current Business*.
[iv] See Rachel H. Soloveichik, Artistic Originals as Capital Assets, June 2011, *Survey of Current Business*.
"Theatrical movies" is a term used by the BEA to describe movies premiering in movie theaters. Television movies and direct-to-video movies are counted by the BEA as "long-lived TV programs."
[v] "Real" investment in entertainment originals was estimated by the NEA's Office Research & Analysis by applying chain-type quantity indexes (2009=100) for investment in private fixed assets to BEA's reported current-dollar investment in entertainment originals.
[vi] Real value added is also affected by the productivity of the industry's labor and capital.