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Final Report

The Effect of the Global Economic Recession on Canada's Creative Economy in 2009

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Highlights

The global recession is having a profoundly negative impact on most sectors of the Canadian economy this year. The Canadian economy entered into a recession in the fourth quarter of 2008, and is expected to continue contracting through much of 2009 before turning around later in the year.

Canada's culture sector is not immune to the effects of the global recession. Indeed, the analysis presented in this report shows that the culture sector of Canada's economy will be hit harder by the global recession than the overall Canadian economy. Real value-added output, or gross domestic product (GDP), for the Canadian economy is expected to be 4 per cent lower in 2009[1] than it would have been in the absence of the global recession. In comparison, real value-added output in Canada's culture sector is expected to be 4.8 per cent lower in 2009 than it would have been had there not been a recession.

Our estimates suggest the global recession is likely to reduce real direct value-added output of Canada's culture sector by about $2.2 billion in 2009.

Other key findings from the Conference Board's analysis of the impact of the global recession on Canada's culture sector can be summarized as follows:

- **Revenues** for Canada's culture sector are expected to be 4.3 per cent—or about $3.1 billion—lower in 2009 than they would have been in the absence of a global recession.

  - The impact of the global recession will vary across the nine "core" culture categories since each category relies on different sources of revenues.
  - The global recession is expected to affect revenues from all sources, in particular from endowments. The weak economy and the steep decline in stock markets are expected to erode this revenue source by nearly 16 per cent.
  - The reduction in endowment revenues will likely have the largest impact on the performing arts and heritage categories of the culture sector.
  - Culture categories that depend heavily on business advertising will also be severely affected by the global recession.
  - Written media and broadcasting, which depend heavily on business advertising, are expected to see real revenues fall by 6.1 and 4.8 per cent, respectively, because of the global recession.
  - Revenues for the heritage and libraries categories depend more on government funding, and are therefore less vulnerable to an economic downturn; these categories are expected to see their revenues fall by 1.4 per cent and 0.9 per cent, respectively because of the global recession.

[1] Per cent declines were based on percentage point reductions in growth generated by comparing forecasts from the Conference Board's macroeconomic model of Canada at two different points in time. The percentage point decline in Canadian real GDP is calculated as the difference between the growth for 2009 forecast in the middle of 2007 (the forecast made just before the events leading to the global recession transpired) and the growth for 2009 forecast in the middle of 2009 (the most recent Conference Board forecast prior to the analysis undertaken in this report). In this case, the difference between the two GDP growth projections for 2009 amounts to 4 percentage points.

- The reduction in culture sector **employment** is expected to be smaller than the reduction in employment for the overall Canadian economy, despite the severe effects of the economic downturn.

    - The global recession is expected to result in culture sector employment being 2.3 per cent lower than it would have been in the absence of the recession. This compares with a 3.6 per cent reduction in employment projected for the overall Canadian economy relative to what it would have been in the absence of the global recession.
    - The higher rate of self-employment in the culture sector is a main reason why a smaller reduction in overall employment levels for the sector is expected. In 2006, 26 per cent of those employed in Canada's culture sector were self-employed, compared with 12 per cent in the overall Canadian economy.
    - It should be noted, however, that self-employment does not necessarily translate to being gainfully employed—in particular for those who are newly self-employed and have experienced a decline in employment earnings from their previous employment.

- Our estimates suggest the global recession will **reduce average employment earnings** paid to workers in the culture sector by 2.2 per cent in 2009. This figure does not include the potential erosion of employment earnings experienced by those who are newly self-employed in the culture sector, having lost their jobs in other sectors as a result of the economic downturn.

    - Average employment earnings are expected to decline, because the decrease in revenues is expected to outpace the reduction in employment. In Canada overall, the global recession is expected to reduce real average employment earnings by 0.8 per cent.
    - The impact of the economic downturn on average employment earnings will vary across culture occupation groups, depending on the number of self-employed workers who may enter each occupation from other cultural enterprises or from outside the sector.
    - The number of self-employed workers in the creative and artistic production occupations is expected to grow while revenues fall. As a result, real employment earnings for workers in the creative and artistic production occupations (including the self-employed and employees) are expected to fall by 3.5 per cent, on average.

I. Introduction

This report presents the findings of an analysis conducted by The Conference Board of Canada to determine the direct effects of the global recession on the performance of the culture sector of Canada's economy in 2009. This economic analysis is part of a larger study commissioned by the Cultural Human Resource Council to assess the human resource issues facing Canada's culture sector.

Background

Canada's arts and cultural industries contribute significantly to the country's economy. Taking into account the substantial direct, indirect, and induced contributions of the arts and culture industries, a recent Conference Board of Canada report estimated that the culture sector's economic footprint was $84.6 billion in 2007, an amount equivalent to 7.4 per cent of Canada's gross domestic product (GDP).[2] Moreover, the study estimated that nearly 1.1 million jobs can be attributed directly or indirectly to economic activity generated by culture sector industries.

As an economic driver, culture generates substantial revenues and employment. Culture is equally important for enhancing quality of place, which has become central to economic competitiveness. A vibrant cultural community is an essential element for attracting skilled labour and new investment. As cities around the world compete for talent, those that offer an abundance of cultural amenities and enriching experiences will enjoy a significant competitive advantage.

The performance of Canada's culture sector is expected to suffer from the effects of the global recession in 2009. Revenues for the culture sector come from a variety of sources including domestic and foreign consumers, governments at all levels, businesses, and endowments and gifts. The global recession will have a measurable effect on each of these sources of revenue for the culture sector.

To estimate the effects of the recession on the performance of Canada's culture sector, we assessed the direct impact of the global recession on various revenue sources, and projected the revenue losses expected to occur. The analysis incorporated the most recent data available. A framework based on Statistics Canada's *Canadian Framework for Culture Statistics* and the Conference Board's 2008 study, *Valuing Culture: Measuring and Understanding Canada's Creative Economy* was constructed to structure the analysis.

The analysis is organized around nine categories of "core" culture goods and services. The categories do not, therefore, correspond to those traditionally used by the Cultural Human Resources Council. The nine "core" categories are broadcasting, festivals, film, heritage,

[2] Pedro Antunes, Joseph Haimowitz, and Kip Beckman, "The Economic Footprint of Canada's Creative Economy," in The Conference Board of Canada, *Valuing Culture: Measuring and Understanding Canada's Creative Economy* (Ottawa: The Conference Board of Canada, 2008), pp. 22–32.

libraries, performing arts, sound recording and music publishing, visual arts, and written media. A description of each category is included in Appendix A.

An important limitation of the analysis is that the digital media category[3] is not analyzed in this report.[4] A 2006 PricewaterhouseCoopers study suggests that the interactive media industry is large.[5] The study estimates that in 2005, the interactive media industry in Canada generated total revenues of about $5 billion and employed more than 50,000 people. Although digital media is becoming an increasingly important part of the cultural landscape, it has been excluded from the analysis presented in this report for two reasons. First, it is not one of the categories of culture goods and services described in Statistics Canada's *Canadian Framework for Culture Statistics*. Second, data availability for this category is limited. The revenue streams and sensitivity of consumption to changes in income for this category cannot be measured accurately.

The analysis in this report isolates the effect of the global recession rather than forecasting the culture sector's overall performance in 2009. The overall performance of the culture sector in 2009 will be determined by the impact of global recession as well as other on-going trends, such as changes in relative prices, distribution channels and consumption patterns not associated with the state of the economy.

This report excludes these trend influences and focuses solely upon the impact of the global recession on the culture sector's performance in 2009. Moreover, this analysis does not directly address the effect of the global economic recession on the operating profits of the culture sector. It is possible that some cultural enterprises will react in a more dramatic manner than projected—for example, by laying-off more employees than expected—as substantial losses may push some enterprises past the "tipping point" of being sustainable business operations.

[3] This category includes "new media" and "interactive media."
[4] Although this report does not analyze the "new/digital media" category, a companion piece presenting labour market information for the culture sector, in which a different definition of the culture sector will be used, will include this category.
[5] PricewaterhouseCoopers, *Canadian Interactive Industry Profile 2006*.

II. The Reliance of the Culture Sector on Various Revenue Streams

To isolate the impact of the global recession on the performance of the culture sector in 2009, it was necessary to begin by assessing the sector's reliance on various revenue streams. The five main sources of revenues for the culture sector are consumption of culture goods and services by Canadian households, foreign consumption of culture goods and services,[6] government spending on culture goods and services, spending by Canadian businesses on culture goods and services, and other revenue sources, such as endowments and gifts.

The analysis assessed the effect of the global recession on each of these revenue streams in order to estimate the losses in revenues that could be directly attributed to the change in economic conditions. The relative importance of each revenue stream determined the extent to which revenue losses from that source could affect the economic performance of the entire culture sector and each of the nine core categories of culture goods and services—broadcasting, festivals, film, heritage, libraries, performing arts, sound recording and music publishing, visual arts, and written media. Since the relative importance of each revenue stream differs substantially across the nine core categories of culture goods and services, the impact of the global recession on each of these categories will also differ.

Table 1 shows the estimated total revenues for the culture sector and the nine core categories in 2008. Table 1 also provides an estimate of the total revenue of the "non-core" culture categories, which include architecture, photography, design, and advertising.[7] In 2008, the total revenue from the non-core culture categories was estimated to equal 29 per cent of the total revenue of the core culture categories. In total, culture enterprises[8] in Canada were estimated to generate over $72.2 billion in revenue from all sources during 2008.

[6] Foreign demand of cultural goods and services was measured using the balance of payments data for commercial goods and services only; it does not include the spending on cultural goods and services by international travellers in Canada. International travel is particularly vulnerable during economically challenging times. In 2009, we expect overnight international travel to Canada to decline between 9 and 10 per cent as a result of not only the global economic recession but also changes in travel prices and travel requirements. Because we don't include spending by international travellers, our analysis may prove to be somewhat conservative with respect to the impact of the economic recession on culture goods and services that depend significantly on international travellers.
[7] In 2008, total revenues from the non-core culture categories were calculated to equal 29 per cent of the total revenue of the core culture categories. The 29 per cent figure was based on the latest available data from Statistics Canada data, reported in *Economic Contribution of the Culture Sector to Canada's Provinces* (Statistics Canada, 2007). Our report provides a breakdown of value-added output for the nine core categories, with the remaining categories being summed to represent non-core culture in Canada.
[8] Culture enterprises include self-employed workers.

Table 1: Culture Sector Revenues, 2008
(estimated total revenues by category of culture goods and services)

Category	Total revenues ($ millions)
Broadcasting	13,426
Festivals	181
Film	9,262
Heritage	3,125
Libraries	2,843
Performing arts	2,080
Sound recording and music publishing	1,958
Visual arts	1,928
Written media	21,199
Core culture sector sub-total	**56,002**
Non-core culture sector	16,241
Culture sector total[9]	**72,243**
Sources: The Conference Board of Canada; Statistics Canada.[10]	

Table 2 illustrates the relative importance of each of the revenue streams for the culture sector as a whole and for each of the nine core categories of culture goods and services. The largest source of revenues for the culture sector is Canadian businesses, which generate 52.6 per cent of all spending in this sector. The second-largest source of revenue is Canadian households, which account for 26.1 per cent of spending in Canada's culture sector.

The relative importance of each revenue stream differs for each of the nine core categories of culture goods and services. For example, revenues generated from consumption by Canadian households are crucial for the visual arts category, which receives more than 90 per cent of its revenues from this source. Consumption by Canadian households also generates a high proportion of festival revenues (72.1 per cent), as well as sound recording and music publishing revenues (69.6 per cent). Conversely, libraries and written media derive a relatively small proportion of their overall revenues from Canadian household spending. The primary source of revenues for libraries—and for heritage—is government, while the primary source of revenues for written media is business. Foreign consumption, in the form of exports,[11] plays a relatively small role as a revenue source for most of the culture categories. The exception to this is the film category, where over 25 per cent of revenues are generated through exports.

[9] The revenues reported for the total culture sector include the nine core culture sub-categories shown in Table 1 as well as the non-core culture categories, including architecture, photography, design, and advertising.
[10] Statistics Canada sources used include *Economic Contribution of Culture to Canada's Provinces*; *Culture Trade Goods: Data Tables*; *Film and Audio-Visual Production*; *Film and Video Distribution*; *Performing Arts: Data Tables*, *Heritage Institutions: Data Tables*; *Sound Recording and Music Publishing*; *Periodicals Publishers*; *Newspaper Publishers*; *Book Publishers*; and CANSIM data.
[11] This category excludes the effect of foreign consumption of culture goods and services while visiting Canada.

Table 2: Source of Culture Sector Revenues
(per cent share of overall revenues, by category of culture goods and services)

Category	Canadian households	Government (all levels)	Exports	Canadian business	Endowments and other	Total
Broadcasting	45.8%	15.5%	1.2%	37.5%	0.0%	100%
Festivals	72.1%	24.1%	0.0%	3.8%	0.0%	100%
Film	11.9%	5.3%	26.7%	56.1%	0.0%	100%
Heritage	24.1%	57.1%	0.7%	13.4%	4.8%	100%
Libraries	5.8%	94.2%	0.0%	0.0%	n.a.[12]	100%
Performing arts	59.6%	23.8%	4.4%	3.7%	8.5%	100%
Sound recording and music publishing	69.6%	1.6%	6.5%	22.3%	0.0%	100%
Visual arts	90.9%	3.1%	3.9%	2.2%	0.0%	100%
Written media	8.4%	0.8%	3.9%	86.9%	0.0%	100%
Culture sector total	**26.1%**	**14.1%**	**6.7%**	**52.6%**	**0.6%**	**100%**
Sources: The Conference Board of Canada; Statistics Canada.						

Each revenue stream may also be comprised of multiple sources of spending. The two primary examples of this are business spending, which may be consumption based or advertising based, and government spending, which may be at the federal, provincial, or municipal level. The Conference Board's analysis of culture sector revenue also included a more detailed analysis of business and government spending.

Overall, about two-thirds of corporate spending on culture is through the consumption of goods and services[13]—including corporate sponsorship—while a little more than one-third is through advertising. Indeed, when looking at the individual categories of culture goods and services, most cultural categories derive most, if not all, of their corporate-generated revenues through consumption-related activities. There are, however, some important exceptions to this pattern. The Conference Board estimates that broadcasting and festivals derive nearly all of their revenues from business through advertising while written media derives the majority of its corporate-generated revenues through business consumption of goods and services.

Table 3 presents the breakdown of government-generated revenues by level of government. Canada's culture sector as a whole receives about 14.1 per cent of its overall revenues from government sources. Of this amount, nearly half (46.2 per cent) comes from the federal

[12] While it is known that endowments do represent a portion of the revenue base for many specific libraries, no aggregate source of information was found to provide a benchmark level for all libraries.
[13] In keeping with Statistics Canada methodologies (see Culture Statistics Program, *Canadian Framework for Culture Statistics,* Statistics Canada, 2004 or Culture Statistics Program, *Economic Contribution of the Culture Sector to Canada's Provinces,* Statistics Canada, 2007), business consumption spending includes not only end-use products but also spending at any point along the creative chain. For example, in written media, business consumption spending includes both end-use products such as the purchase of training manuals and also manufacturing activities such as printing.

government. The balance is, roughly, divided among provincial and municipal governments. The importance of each government funding source varies considerably across the nine core categories of culture goods and services examined. Libraries, for example, receive the lion's share of their government-generated revenues from municipalities, while broadcasting and written media receive nearly all of their government-generated revenues from the federal government. The visual arts category receives more than two-thirds of its government-generated revenues from provincial governments.

Table 3: Source of Public Funding for the Culture Sector
(per cent share of revenues from government, by category of culture goods and services)

Category	Federal	Provincial	Municipal
Broadcasting	91.0%	9.0%	0.0%
Festivals	17.9%	21.8%	60.3%
Film	74.6%	25.4%	0.0%
Heritage	54.7%	39.2%	6.0%
Libraries	1.5%	35.2%	63.3%
Performing arts	47.3%	44.2%	8.4%
Sound recording and music publishing	80.2%	19.8%	0.0%
Visual arts	31.1%	68.9%	0.0%
Written media	85.8%	14.2%	0.0%
Culture sector total	**46.2%**	**29.2%**	**24.6%**

Sources: The Conference Board of Canada; Statistics Canada

The Culture Sector in the News

Canadian Broadcasters Cut Jobs and Programming

To address a growing financial shortfall caused by the advertising downturn, in March 2009 the Canadian Broadcasting Corporation—Canada's publicly owned operator of national television and radio networks—announced it was cutting of about 800 jobs, selling corporate assets, and cutting pay for senior managers. The CBC also said it would scale back regional radio and TV programming and make cuts in news, drama, music, and current affairs.

"We need $171 million to balance our budget," CBC President Hubert Lacroix said. "In a company where 60 per cent of the overall budget goes to salaries, it's simply impossible to bridge a gap of this magnitude without having a major impact on people."

Cost cuts at CTV, a private sector Canadian broadcaster, have also resulted in layoffs and other cutbacks. Since late November 2008, CTV has cut upwards of 225 jobs and announced it will shut down two stations.

Sources: Shane Dingman, "CBC announces 800 job cuts, $171-million shortfall," *National Post* [online]. (March 25, 2009), [cited October 19, 2009]. http://network.nationalpost.com/np/blogs/posted/archive/2009/03/25/cbc-announces-800-job-cuts-171-million-shortfall.aspx; and Wojtek Dabrowski, "CBC to Cut Executive Pay, Try to Sell Assets," Reuters [online]. (March 19, 2009), [cited October 19, 2009]. www.reuters.com/article/managementIssues/idUSN1937916320090319?pageNumber=2&virtualBrandChannel=0.

The Culture Sector in the News

Libraries See Increase in Users as the Economy Tumbles

Public library visits were expected to rise in 2009, right across the country, according to a January 2009 Globe and Mail article, "as personal finances take a hit during the recession…In a time of belt-tightening, libraries provide cheap and, depending on the location, free entertainment."

Gerry Meek, director of the Calgary Public Library, noted that libraries tend to get busier during tough economic times. "We're kind of a recession sanctuary." In 2008, Calgary's 17 public library branches "circulated a record 15.4 million items, up 1.1-million items, or almost 7.7 per cent, from 2007."

At the Toronto Public Library—Canada's largest, with 99 branches across the Greater Toronto Area—"visits were up 8 per cent in the second half of 2008 as the recession bore down." And at Vancouver's Central Library, the number of people logging on to its web-based services was up 50 per cent in 2008 over the previous year.

Source: Dawn Walton, "A New Chapter Begins for Libraries as Economy Sinks," *Globe and Mail* [online]. (January 26, 2009), [cited October 19, 2009]. www.accessola.com/olba/bins/content_page.asp?cid=66-827-2839.

III. The Impact of the Global Recession on Culture Sector Revenues

The Conference Board's analysis indicates that the direct effects of the global recession will result in revenues in Canada's culture sector being 4.3 per cent lower than they would have been if there had not been a recession. (See Table 4.) It is important to note that this estimate isolates the effect of the global recession and excludes any other trends that may affect the performance of the culture sector in 2009.

Using our revenue estimate for the culture sector in 2008 as a benchmark, a reduction of 4.3 per cent in revenues suggests the global recession is likely to reduce revenues for culture enterprises in Canada by about $3.1 billion in 2009.[14]

The impact of the global recession varies widely across the culture sector's nine core categories of culture goods and services. Revenues in written media and broadcasting are expected to be hit hardest by the global recession. The global recession is expected to reduce the revenues of written media by 6.1 per cent and broadcasting by 4.8 per cent below what they would have been in the absence of the recession. Conversely, libraries are expected to see a much smaller reduction in the revenues (−0.9 per cent) as a result of the global recession. This is mainly because libraries rely much more on public funding, which tends to be a far more stable revenue stream in times of economic stress than private revenue sources.

Table 5 shows the impact of the global recession on each of the culture sector's revenue streams. Revenues generated from Canadian household consumption are expected to be 1.2 per cent lower than they would have been in the absence of the recession, while revenues generated by foreign consumption are expected to be 1.1 per cent lower than they would have been.[15]

Government spending and funding of the culture sector is expected to be more stable than other revenue streams. Nevertheless, the impact of the global recession on government spending will differ depending on the level of government. Although the global recession has triggered more spending on goods and services at the federal level, it has significantly reduced spending at the municipal level. Categories of culture goods and services that depend heavily on municipal funding, such as libraries, will feel the effect of weaker government revenue streams.[16]

[14] The "true" measured effect of the economic recession in 2009 will likely differ from the $3.1 billion estimated, and be either higher or lower because of the influence of other non-economic factors on sector performance during 2009. In the absence of being able to quantify the influence of non-economic factors affecting performance in 2009, our analysis focused on quantifying the degree to which the global recession affected performance in relative percentage terms. That is, it compared the performance of the culture sector affected by a global recession against a scenario in the absence of an economic recession. Any reference in this report to quantifying the impact of the global recession in non-percentage, or level, terms is made using 2008 benchmark levels.

[15] A more detailed description of how household consumption impacts are calculated is included in Appendix C.

[16] The impact of the global recession on government revenues in our analysis is limited to tracking the cultural expenditure trends of the three levels of government in aggregate rather than tracking the initiation and sunsetting of individual programs. We found that changes in provincial and municipal spending on culture correspond closely to overall changes in government spending, while changes in federal government support for culture correspond

Table 4: Impact of the Global Recession on Canada's Culture Sector Revenues
(revenue change by category of culture goods and services)

Category	Impact in 2009
Broadcasting	−4.8%
Festivals	−2.6%
Film	−3.0%
Heritage	−1.4%
Libraries	−0.9%
Performing arts	−2.9%
Sound recording and music publishing	−1.2%
Visual arts	−1.0%
Written media	−6.1%
Culture sector total[17]	**−4.3%**
Source: The Conference Board of Canada.	

The impact of the global recession will also have different effects on the two sources of business spending on culture goods and services. Business consumption is expected to be 4.5 per cent lower than it would have been in the absence of the global recession, while business spending on advertising will be an estimated 12.1 per cent lower than it would have been. Considering that the culture sector receives more than half of its overall revenues from Canadian businesses, a significant reduction in revenues from this source will be a severe financial blow—in particular for written media, the category of culture goods and services most reliant on this revenue stream. Canadian businesses provide the written media with nearly 87 per cent of their revenues. The film industry will also suffer financially from a reduction in corporate spending, as it receives over 56 per cent of its revenues from Canadian businesses.

By examining the main sources of revenues for the culture sector, the Conference Board analysis revealed that the global recession will take the largest toll on funding sources that fall under the "endowments and other" category. (See Table 5.) This category includes private gifts and endowments. Weak economic conditions and deterioration in wealth due, in part, to stock market declines are expected to erode this revenue source by nearly 16 per cent. This reduction will have the greatest impact on the performing arts and heritage categories of culture goods and services because of their relatively strong dependence on this revenue stream. However, for the culture sector as a whole, this source of revenue is relatively small, accounting for only 0.6 per cent of the culture sector's overall revenue.

closely to changes in federal government discretionary spending (which excludes spending on health, education, social security, and debt).

[17] In aggregate, the non-core culture categories were assumed to rely on the individual revenue sources to the same degree as the combined core categories. (See Table 2.) As a result, the expected impact of the global recession on non-core culture industries is assumed to be the same as on the core categories—that is, −4.3 per cent.

Table 5: Impact of the Global Recession on Canada's Culture Sector's Revenue Sources
(revenue change by source)

Revenue source	Impact in 2009
Canadian household consumption	−1.2%
Foreign consumption	−1.1%
Government—federal	1.9%
Government—provincial	−0.1%
Government—municipal	−1.6%
Business—consumption	−4.5%
Business—advertising	−12.1%
Endowments and other (gifts, etc.)	−15.7%
Culture sector total	**−4.3%**
Source: The Conference Board of Canada.	

The Culture Sector in the News

Slow Economy Forces Cultural Institutions, Arts Groups, and Festivals to Cut Back

Arts groups, theatres, and festivals across Ottawa are cutting back as the recession takes its toll:

- The National Gallery of Canada has asked employees to take unpaid leave or early retirement in an effort to cut costs, avoid a deficit, and prevent layoffs.
- The Great Canadian Theatre Company eliminated two-and-a-half positions this past year.
- The Ottawa International Jazz Festival lost one of its corporate sponsors, the National Arts Centre.
- The Ottawa Chamber Music Festival moved to smaller offices, eliminated a staff position, and reduced the number of concerts it offers.

Source: Tony Lofargo, "Slow Economy Forces Arts Groups, Festivals to Cut Back," *Ottawa Citizen* [online]. (June 10, 2009), [cited October 19, 2009]. www.ottawacitizen.com/travel/Slow+economy+forces+arts+groups+festivals+back/1683825/story.html.

Culture Sector in the News

Drop in the Value of Endowment Funds Forces Museum to Lay Off Staff

Employees at Calgary's Glenbow Museum have been affected by the recession, with 4.5 jobs being eliminated and another 6 jobs being reduced to part-time positions. Before the layoffs the museum employed 79 regular full-time staff, 10 regular part-time staff and 24 term and casual employees.

With the value of the museum's endowments dropping by $11 million since 2007, operating costs had to be reduced. "We rely on our endowments for operating perhaps more than some other Canadian institutions because that is our funding model," says Kirstin Evenden, the museum's president and CEO. "The cuts have come only after other efforts to trim the museum's operating expenses were made, such as closing on Thursday mornings and Sunday nights."

Sources: Jeremy Klaszus, "Struggling Glenbow Lays Off Staff," Fast Forward Weekly [online]. (October 29, 2009), [cited October 29, 2009]. www.ffwdweekly.com/article/news-views/news/struggling-glenbow-cuts-staff-4699/; and Nancy Tousley, "Economy Catches Up With Glenbow Staff," Calgary Herald [online]. (October 28, 2009), [cited October 29, 2009].
www.calgaryherald.com/entertainment/Economy+catches+with+Glenbow+staff/2152494/story.html

IV. The Impact of the Global Recession on Culture Sector Real Value-Added Output

Not only will the global recession result in lower revenues for Canada's culture sector in 2009, it will also reduce the real value-added output of each of the nine core categories of culture goods and services, and therefore of the overall culture sector. Indeed, for each of these nine core categories, the impact of the global recession on real value-added output is expected to match the impact on the category's revenues reported in Table 4. Since output-to-revenue ratios vary across the nine core categories of culture goods and services, the aggregate impact on the value-added output of the culture sector differs from the aggregate impact on the revenues of the culture sector.

The Conference Board estimates that the global recession will reduce the real value-added output of the culture sector by 4.8 per cent below what it would have been in the absence of the recession.[18] To put this in perspective, the global recession will reduce the real GDP of the Canadian economy by an estimated 4 per cent in 2009 relative to what it would have been.[19]

Using our estimated $46.8 billion in real (in 2002 dollars) value-added output of the culture sector as a benchmark, a reduction of 4.8 per cent in real-value added output would result in about $2.2 billion less value-added output from Canada's culture sector in 2009 as a result of the global recession.

The Culture Sector in the News

CanWest's Declining Advertising Revenues Affect Company's Bottom Line

Canada's biggest media company, CanWest Global Communications Corp., with roughly 7,400 employees, has been hard hit by the recession. In November 2008 the company slashed costs by announcing 560 layoffs—including 210 at its broadcasting operations. And in October 2009, several of the company's units (including Global Television Network) filed for creditor protection.

"The abrupt and unprecedented decline in advertising revenues reduced operating profits by levels no one could have predicted," CanWest Chief Executive Leonard Asper said. "In this environment, CanWest simply had too much debt."

Source: Wojtek Dabrowski, "CanWest to Recapitalize Under Protection Plan," Reuters [online]. (October 6, 2009), [cited October 19, 2009]. www.reuters.com/article/mergersNews/idUSN0641632420091006.

[18] Value-added or net output is the difference between total revenue and the sum of expenses on parts, materials, and services used in the production process. Summing the value-added output across all industries yields the gross domestic product (GDP) for Canada.

[19] Per cent declines were based on percentage point reductions in growth generated by comparing forecasts from the Conference Board's macroeconomic model of Canada at two different points in time. The percentage point decline in Canada's real GDP is calculated as the difference between the growth for 2009 forecast prior to global economic recession (i.e., in the second quarter of 2007) and the most recent forecasts available (i.e., in the second quarter of 2009). In this case, the difference between the two GDP growth projections for 2009 amounts to 4 percentage points.

V. The Impact of the Global Recession on Culture Sector Employment

The direct effects of the global recession are expected to reduce employment in Canada's culture sector this year by 2.3 per cent, compared with employment levels the sector could have reached had there not been a recession. This anticipated reduction in employment reflects only the effect of the global recession on the sector's performance, and excludes any other trends that may be influencing its performance in 2009.[20] Overall, the global recession is expected to reduce employment in the Canadian economy by 3.6 per cent in 2009.

Using our estimated employment of 611,000 in culture occupations in 2008 as a benchmark, a reduction of 2.3 per cent in employment would result in the employed workforce of the culture sector being reduced by about 14,000 in 2009 as a result of the global recession.

Data limitations do not allow for the impact on employment to be broken down into the nine core categories of culture goods and services. While our analysis is able to break down the revenues losses attributable to the global recession into the nine core categories of culture goods and services, specific details about the nature of employment in the sector are only available at the occupational level.

Sufficient information is not available to identify how production processes and levels of employment will change as a result of the global recession on a detailed industry-by-industry basis. While some linkages can be made using the Statistics Canada 2006 North American Industrial Classification System (NAICS) industry codes, it is not possible to make a one-to-one mapping of culture occupations with the specific culture categories used by Statistics Canada to define the sector. Despite some occupations that are more or less exclusive to just one of the culture categories, others, such as "musicians" or "actors" are found in more than one culture category.

The analysis does, however, break out the impact among various occupational groupings, as outlined by Statistics Canada.[21] Each occupational grouping comprises a distinctive labour-related role that is integral to how the culture sector operates. These groupings do not correspond directly with the commonly referred to elements of the creative chain—from creation through production, manufacturing, and distribution.[22] Instead, many of the occupational groupings are part of more than one culture category. As an example, the occupational groupings of "cultural management" and "technical and operational occupations" are likely common to all nine of the core culture categories.

[20] Please see Appendix D for a more detailed description on how the employment impacts were calculated.
[21] For a full list of the specific culture occupations and occupational groupings, see Appendix C "Standard Occupational Classification (SOC)" of Statistics Canada's *Economic Contribution of Culture to Canada's Provinces* (2007) report, which refers to the *Canadian Framework for Culture Statistics*.
[22] For more details on the creative chain, please see Statistics Canada's *Canadian Framework for Culture Statistics.*

As a result, for this analysis, the effect of the recession on real value-added output is assumed to affect all of the occupational groupings to the same extent, with the exception of the heritage and libraries categories. The analysis was able to differentiate the impact of these two culture categories because occupations that are grouped by Statistics Canada into “heritage collection and preservation occupations” are exclusively represented within the heritage and libraries culture categories. Moreover, this differentiation was also appropriate since, as illustrated in Table 2, the heritage and libraries categories receive more than half of their revenues from government sources and so, during a recession, experience significantly different changes in revenues than the rest of the sector experiences.

The decline in real value-added output of the heritage and libraries category was estimated to be 1.2 per cent,[23] as compared with an estimated 5 per cent decrease in real value-added output for the other culture categories.[24]

An important aspect of the employment analysis is that changes in employment are strongly influenced by the degree to which workers are either self-employed or employees. The global recession has caused self-employment levels in Canada to rise while employment among employees has fallen. With employees outnumbering self-employed workers by nearly eight to one in the economy as a whole, overall employment rates have declined. As illustrated in Table 6, rates of self-employment vary considerably among culture occupation groups. The impact of the global recession on employment will therefore vary among the occupational groups.

Table 6: Prevalence of Self-Employment Among Culture Sector Occupation Groups
(per cent share of employed labour force that is self-employed, by occupational group)

Occupational groups	Self-employment share
Creative and artistic production occupations	42%
Heritage collection and preservation occupations	2%
Cultural management	7%
Technical and operational occupations	16%
Manufacturing occupations	5%
Culture sector total	**26%**
Source: The Conference Board of Canada.	

The occupational group least affected by the global recession will be the heritage collection and preservation occupations because of the lower impact on revenues vis-à-vis the other groups and, perhaps even more importantly, the low rate of self-employment in these occupations. The creative and artistic production occupations will be the second least affected occupational group.

[23] This percentage was based on an average of the decline in revenue of 1.4 per cent in the heritage category and of 0.9 per cent in the libraries category.
[24] Excluding heritage and libraries, the drop in GDP is 5.0 per cent, leading to a 4.8 per cent drop in economic activity in the culture sector as a whole.

In this case, the more modest impact on overall employment levels is due to the high prevalence of self-employment in the category and the assumption that this segment will increase as a result of an influx of workers from within the sector or from other sectors of the economy. As has been the case for the economy as a whole, manufacturing occupations are expected to see the largest drop in employment as a result of the global recession. (See Table 7.)

Table 7: Impact of Global Recession on Employment in Canada's Culture Sector
(employment change by occupational group)

Occupational groups	Impact in 2009 on employment
Creative and artistic production occupations	−1.2%
Heritage collection and preservation occupations	−0.6%
Cultural management	−3.9%
Technical and operational occupations	−3.3%
Manufacturing occupations	−4.1%
Culture sector total	**−2.3%**
Source: The Conference Board of Canada.	

A final aspect of detailing the effects of the global recession in this report is to look at the impact on average employment earnings paid to workers in the sector.[25] As was the case for employment, our calculation of real employment earnings differentiates between the impact felt by the heritage and library categories (assumed to correspond to the heritage collection and preservation occupations) and the impact felt by the other culture categories.

Table 8: Impact of Global Recession on Real Average Employment earnings in Canada's Culture Sector
(real wage change by occupational group)

Occupational groups	Impact in 2009 on real average employment earnings
Creative and artistic production occupations	−3.5%
Heritage collection and preservation occupations	−0.4%
Cultural management	−0.9%
Technical and operational occupations	−1.5%
Manufacturing occupations	−0.7%
Culture sector total	**−2.2%**
Source: The Conference Board of Canada.	

[25] Average employment earnings, as defined here, are exclusive of benefits.

The global recession is expected to reduce real average employment earnings by 2.2 per cent for the culture sector overall in 2009, compared with an anticipated 0.8 per cent decline for the overall Canadian economy. The analysis suggests that the most affected occupational group will be the creative and artistic production occupations. (See Table 8.) Real average employment earnings in this group will be pulled down by the higher influx of self-employed workers expected. Indeed, across all of the occupational groups, self-employment does not necessarily translate to being gainfully employed—in particular for those who are newly self-employed and have experienced a decline in employment earnings from their previous employment.

The Culture Sector in the News

National Arts Centre to Cut Jobs

The National Arts Centre, in Ottawa, may have to cut up to 40 jobs to counter lowered sales brought on by the recession. The cultural institution is facing a budget shortfall of $3.8 million next year.

According to Jayne Watson, CEO of the National Arts Centre Foundation and formerly the NAC director of communications, "the impact of the recession has affected our business lines. Everything from parking to restaurant sales and catering to box office sales and fundraising has been affected."

Source: Cassandra Drudi, "Recession Forces NAC to Cut Up to 40 Jobs," *Ottawa Citizen* [online]. (June 9, 2009), [cited October 7, 2009]. www.ottawacitizen.com/business/Recession+forces+jobs/1679848/story.html.

The Culture Sector in the News

Number of Self-Employed Workers in Canada on the Rise

Although the number of workers in Canada increased this April (35,900 additional workers) for the first time in five months, all of the net job gains came from a rise in the self-employment category—often lower-paying.

Some economists are skeptical that these numbers reflected the beginning of a labour market recovery. Sylvain Schetagne, an economist with the Canadian Labour Congress, for example, notes that an increase in self-employment could signal labour market weakness rather than strength, as well as a failure in Canada's social safety net. And Derek Holt, an economist with Scotia Capital, thinks it unlikely that most of these jobs were voluntary.

Source: Julian Beltrame, "Big Increase in Self-Employed Provides Canadian Jobs Surprise," Canadian Press [online]. (May 8, 2009), [cited October 19, 2009]. http://ca.news.finance.yahoo.com/print/s/08052009/2/biz-finance-big-increase-self-employed-provides-canadian-jobs-surprise.html.

The Culture Sector

Film Industry Falters

This has been a difficult year for Canada's film and television industry. Brian Anthony, national executive director and CEO of the Directors Guild of Canada, notes that many Guild members have either had no work for extended periods of time, or no work at all. Some members have sought work opportunities outside the industry. 'One Guild member came by the office to pay his membership dues in the hope that business will eventually pick up,' said Anthony, 'In the meantime, he found other employment: he was wearing a Canada Post uniform and was on his rounds.'

Sadia Zaman, executive director of Women in Film and Television (WIFT), echoes these words. 'For the first time in the history of the organization, WIFT has had to recognize that many would not be returning to the industry in their previous roles, as such, we introduced our Career Transition Program.'

Documentary filmmakers are also feeling the impact of the recession. Lisa Fitzgibbons, executive director of Documentary Organization of Canada (DOC), notes: 'Unlike never before, documentary filmmakers are feeling how precarious their position in the film industry is. Many mid-career and established film-makers are uncertain as to how they can sustain their business activity.'

Source: Cultural Human Resources Council, 2009.

VI. Conclusion

The culture sector makes an important economic contribution to the Canadian economy. A vibrant and active cultural sector is also important in attracting and retaining investment and labour in an increasingly globally competitive economy. Like other sectors of the economy, the culture sector has been affected by the global recession. Revenues in Canada's culture sector are expected to be 4.3 per cent lower in 2009 than they would have been in the absence of a global recession. Using our revenue estimate for the culture sector in 2008 as a benchmark, a reduction of 4.3 per cent in revenues suggests the global recession is likely to reduce revenues for culture enterprises in Canada by about $3.1 billion in 2009.

The culture categories that depend heavily on business advertising and endowments will suffer an even greater loss in revenues because of the impact of the global recession on these revenue sources. In particular, the written media and broadcasting categories of the culture sector are expected to see real revenues decline by 6.1 and 4.8 per cent, respectively, as a direct result of the recession, because of their high dependence on business advertising. As well, organizations in the performing arts and heritage categories that depend on endowments will be especially vulnerable to a sharp decline in this revenue source.

In contrast, culture categories that depend more on government funding will experience a more modest decline in revenues. Growth in real value-added output in the heritage and libraries categories is expected to be reduced by only 1.4 per cent and 0.9 per cent, respectively, as a result of the direct effects of the recession.

The percentage of Canadians working in the culture sector who are self-employed (26 per cent) is more than twice as high as the percentage of self-employed people in the overall economy (12 per cent). This high rate of self-employment in the culture sector is expected to mitigate the absolute employment losses that result from weaker revenue streams. Specifically, the global recession is expected to result in a 2.3 per cent decline in employment in the culture sector, relative to what it would have been in the absence of the recession. This compares with an estimated 3.6 per cent decline in employment for the overall Canadian economy.

Some of those newly self-employed in the culture sector may be able to change their status from unemployed to self-employed, but there is no guarantee they will be able to get by financially. The global recession will reduce average employment earnings paid to those in the culture sector by 2.2 per cent in 2009. Average employment earnings among creative and artistic production occupations are expected to be hardest hit, declining by 3.5 per cent, compared with the 0.4 per cent drop in average employment earnings among heritage collection and preservation occupations.

While Canada's culture sector remains a vibrant and important part of the Canadian economy, its performance has not been immune to the effects of the global recession. Like other sectors of the economy, the culture sector must continue to adapt to changing trends and challenging economic realities.

Appendix A: "Core" Categories of Culture Goods and Services

The analysis in the report adopted the frameworks used in Statistics Canada's *Canadian Framework for Culture Statistics* and the Conference Board's 2008 study *Valuing Culture: Measuring and Understanding Canada's Creative Economy*. The nine categories of core culture goods and services therefore do not directly correspond with the culture sectors traditionally used by the Cultural Human Resources Council. The table below provides a more detailed breakdown of the types of culture goods and services included in each of these categories:

Core culture category	Detailed breakdown
Broadcasting	Motion picture, videotape, and television program production and distribution services; radio program production services; audiovisual production services; broadcasting services
Festivals	Performing arts event promotion, organization, production, presentation, and facility operation; services of performing artists; licensing services for the right to use entertainment, literary or acoustic originals; licensing services for the right to use of trademarks and franchises
Film	Film (including cinematographic film; motion picture, videotape and television program production, and distribution services; audio-visual production support services) and video (including DVDs and videotape recordings)
Heritage	Collections and collectors' pieces of zoological, botanical, mineralogical, anatomical, historical, archaeological, paleontological, ethnographic, or numismatic artifacts; antiques exceeding one hundred years; museum services; preservation services of historical sites and buildings; botanical and zoological garden services; nature reserve services
Libraries	Library services, archive services
Performing arts	Performing arts event promotion, organization, production, presentation and facility operation; services of performing artists; services of authors, composers, etc.
Sound recording and music publishing	Sound recording and music publishing, printed music
Visual arts	Original art (paintings, drawings, engravings, prints, sculptures, etc.)
Written media	Books, newspapers, periodicals, other printed materials (e.g., calendars, printed pictures and photographs, publishing services

It should be noted that some of the goods and services—such as "motion picture, videotape, and television program production and distribution services"—can be found in both the broadcasting and film categories. In these cases, Statistics Canada's methodology parses out parts of the goods or service as appropriate to each category. Other services—such as those of authors, composers, sculptors and other artists—also appear in more than one of the culture categories.

Appendix B: Culture Sector Revenues—Data Sources

This appendix provides details on the data sources used to determine the underlying revenue streams for each of the nine core categories of culture goods and services. As noted in the main document, revenue in culture comes from a variety of sources, namely consumers, government, international trade, business consumption, business advertising, and endowments. For each category of culture goods and services, the sum of its revenue sources was compared with its GDP to ensure the results are consistent.

Consumption

The methodology for calculating the importance of household consumption to the overall revenues of the culture sector came from Appendix H of Statistics Canada's *The Economic Contribution of the Culture Sector to Canada's Provinces (2007)*. Total expenditures data were from Statistics Canada's *Survey of Household Expenditures* and were calculated as the reported average expenditure per household multiplied by the total number of households. The mapping of expenditures into the culture categories was the same as Statistics Canada's *The Economic Contribution of the Culture Sector to Canada's Provinces (2007)* report. The "V" numbers refer to the identity of the data series used from Statistics Canada's online (CANSIM) database: [26]

Broadcasting—consumer expenditures on rental of cablevision and satellite services (V13882624)
Festivals—Statistics Canada's *The Economic Contribution of the Culture Sector to Canada's Provinces (2007)* report did not include any consumer expenditures in this category. To address this limitation, we matched the distribution of revenues with those of performing arts, excluding the revenue sources associated with international trade and endowments (including gifts and other).
Film industry—consumer expenditures on rental of videotapes and video discs (V13882597) and movie theatres (V13882612)
Heritage—consumer expenditures on admission to museums and other activities (V13882621)
Libraries—consumer expenditures on services related to reading materials (V13885393)
Performing arts—consumer expenditures on live performing arts (V13882618)
Sound recording and music publishing—consumer expenditures on pre-recorded digital video discs, compact discs, video and audio cassette tapes, video discs, and downloads of audio or video (V13882597)
Visual arts—consumer expenditures on works of art, carvings, and vases (V13876702) and expenditures on antiques (V13876705)
Written media—consumer expenditures on newspapers (V13885381), magazines and periodicals (V13885384), books and pamphlets (V13885387), maps, sheet music, and other printed matter (V13885390)

[26] http://cansim2.statcan.gc.ca/cgi-win/CNSMCGI.pgm?LANG=Eng&Dir-Rep=CII/&CNSM-Fi=CII/CII_1-eng.htm.

Government

The methodology for calculating the importance of government consumption to the revenues of the culture sector came from Appendix E of Statistics Canada's *Economic Contribution of the Culture Sector to Canada's Provinces (2007)*. Note that for this report, the mapping of government expenditures was done for all three levels of government. This allowed for the differing impacts of the recession on the spending at each level of government to be incorporated into the analysis. All data for government expenditures was from Statistics Canada's *Government Expenditure on Culture: Data Tables* (July 2009).

International Trade

The change in demand for culture goods and services arising from international trade was calculated on a net export basis, where net exports are the difference between exports and imports. In other words, if the demand for foreign cultural goods and services by Canadians consumers is greater than foreign demand for Canadian cultural goods and services, net exports are negative and revenues to the culture sector are reduced. An example of this occurs in the broadcasting category where some of the broadcasting consumed by households is not created or produced in Canada. In other instances, net exports are positive when foreign demand of Canadian cultural goods and services exceeds domestic demand for imported goods and services. In this case, revenues to the culture sector in Canada would be boosted. An example of this would be the way the film production category has benefited from a relatively large number of films being produced in Canada.

Data for both imports and exports were from the sum of goods and services trade, with goods data from Statistics Canada's *Culture Trade Goods: Data Tables* (Table 1, October 2008) and services data from *Culture Trade Services: Data Tables* (Table 5, May 2009).

Business Revenue—Business Consumption of Culture Goods and Services

Culture sector revenue from business consumption data came from a variety of sources and measured the business consumption of Canadian cultural goods and services at various stages along the creative chain.

> **Broadcasting—**General business-related revenues were calculated as the sum of total revenues from all sources less advertising revenue for each of the following categories: private conventional TV, public non-commercial TV, pay/specialty TV, private radio, and public radio.
>
> **Festivals**—Statistics Canada's *The Economic Contribution of the Culture Sector to Canada's Provinces (2007)* report did not include any business expenditures in this category. To address this limitation, we matched the distribution of revenues with those of performing arts, excluding the revenue sources associated with international trade and endowments (including gifts and other).
>
> **Film industry**—General business-related revenue is calculated as the total operating revenue of film and video production (net of imports and government support); film post-production from Statistics Canada's *Film and Audio-Visual Production: Data Tables*; film distribution (net of imports and government support) from Statistics Canada's *Film and Video Distribution*; movie theatres (less admissions and concessions, which would be consumption) from Statistics Canada's *Motion Picture Theatres: Statistical Tables.*

Heritage—A 2004 Statistics Canada report showed that private sector support for heritage represents 11 per cent of total sector revenue, while government support represents 47 per cent. As no data are available for other years, business support for heritage was assumed to grow at the same rate as government expenditures on heritage. The original study was Statistics Canada's *Heritage Institutions: Data Tables 2004.*

Libraries—no estimate; assumed to be zero.

Performing arts—The 2008 Statistics Canada report on the performing arts suggests that business sector support made up 6 per cent of the total revenue of non-profit performing arts establishments in 2006. Estimates were available for aggregate performing arts sector revenue for 2004–2006, with the 2006 results being applied in the same proportion to the overall revenue reported in Statistics Canada's *Performing Arts: Data Tables.*

Sound recording and music publishing—The business proportion of this industry was calculated to be the sum of business revenue of record production industry, consisting of sound recording; other recording industry; and music publishing. Data were available for 2005 and 2007, so the 2003, 2004, and 2006 estimates were calculated by imputing the growth rate between 2005 and 2007. The original data were from Statistics Canada's *Sound Recording and Music Publishing.*

Visual arts—In Statistics Canada's *Economic Contribution of the Culture Sector to Canada's Provinces* (2007) report, NAICS 32711—pottery, ceramic, and plumbing fixtures manufacturing was identified as a culture industry and was consequently included as part of the total revenue from this sector in the business estimates.

Written media—General business-related revenue was computed as the sum of the following items: total revenue of NAICS 3231—printing and related support activities (V32864602); advertising revenue of periodicals publishers as reported in Statistics Canada's *Periodicals Publishers: Data Tables*; advertising and classifieds revenue of newspaper publishers in Statics Canada's *Newspaper Publishers: Data Tables*; and the estimated business proportion of book publishing, calculated from Statistics Canada's *Book Publishers: Data Tables.*

Business Revenue—Advertising

Advertising revenue for the culture sector from business was found to affect the broadcasting, film industry, and written media culture categories.

Broadcasting—Advertising revenue from business was calculated as the sum of advertising revenue from private conventional TV, public non-commercial TV, pay/specialty TV, private radio, and public radio, as reported in Statistics Canada's summary tables *Radio and television industries, financial and operating statistics.*

Film industry—Statistics Canada's report *Film, Video, and Audio-Visual Production Survey (2006)* found that 8 per cent of total revenues were for advertising. This proportion was applied to revenue estimates of the category as a whole.

Written media—Advertising revenues were calculated as the sum of periodicals advertising revenue and newspaper advertising revenue, which in aggregate represent about 33 per cent of the total industry revenue.

Endowments

Endowments were found to contribute to the revenues sources of heritage and the performing arts culture categories.

Heritage—2006 estimates were from the Hill Strategies report *Finances of Public Museums and Art Galleries.*
Performing arts—2006 estimates were from the Hill Strategies report *Finances of Performing Arts Organizations in Canada.*

Appendix C: Estimating the Effect of the Global Recession on Household Consumption

The global recession has had a significant impact on employment and personal income in Canada and in the rest of the world. Since 26 per cent of the Canadian culture sector's revenues come from consumption by Canadian households and nearly 7 per cent from foreign consumption, any reduction in personal incomes and employment will undoubtedly affect the performance of Canada's culture sector. The analysis incorporated the effect of the global recession on personal income levels in Canada and the rest of the world.

To estimate the global recession's effect on household consumption, our analysis started by isolating the impact of the global recession on the personal incomes of Canadian and foreign consumers. The figures in Table A1 represent the estimated difference between the expected growth rate in personal incomes in 2009 and the growth rate they would likely have attained in the absence of the global recession.[27] The analysis showed that in 2009 the global recession is expected to reduce the growth rate of personal income in Canada by 3.8 percentage points, compared with the growth rate it potentially could have achieved had there not been a recession. In the rest of the world, the global recession is expected to reduce the growth rate of personal income by 3.4 percentage points.

Table A1: Estimated Impact of the Global Recession
(net difference in 2009 growth rates of personal income due to the global recession)

Effect of global recession	2009
Personal income—Canada	−3.8%
Personal income—rest of the world	−3.4%

Sources: The Conference Board of Canada; Consensus Economics Inc.

It should be noted that the impact of the global recession on domestic and foreign consumption of cultural goods and services will be smaller than the impact of the global recession on personal incomes in Canada and the rest of the world reported in Table A1. For many categories of culture goods and services, the sensitivity (or elasticity) of consumption to changes in income levels is less than one-for-one. That is, a 1 per cent reduction in income would lead to a reduction in consumption of less than 1 per cent. The analysis used statistical results from the Statistics Canada Study Understanding Culture Consumption in Canada[28] to develop income elasticities of consumption for each of the nine core categories of culture goods and services.

[27] This estimated difference was based on differences in forecasts made just prior to the emergence of the events that precipitated the global economic recession (i.e., in the second quarter of 2007) and the most recent forecasts available (i.e., in the second quarter of 2009). For Canadian personal incomes, these differences were based on Conference Board of Canada forecasts. For personal incomes in the rest of the world, these differences were based on Consensus Forecast reports.
[28] Jacques Ewoudou, *Understanding Culture Consumption in Canada* (Statistics Canada, 2005).

Appendix D: Employment Calculations—Technical Description

The impact of the global recession on employment in the culture sector was calculated using a multi-step process. As a reference point, the global recession was found to reduce Canadian GDP by 4 per cent and employment by 3.6 per cent in 2009 relative to what they would have been in the absence of the recession.

Typically, the impact of recessions on employment varies tremendously between workers who are self-employed and those who are employees. Indeed, we expect that the current global recession will reduce employment among employees by 4.3 per cent in 2009 while increasing the number of self-employed workers by 3.8 per cent relative to the anticipated change in the absence of the global recession. Since the number of self-employed workers in the Canadian economy is only roughly one-eighth the size of the number of employees, the recession will have a substantial negative impact on overall employment—that is, employment including employees and self-employed Canadians.

In calculating the overall employment impact on the culture sector, we differentiated between the impact felt by the heritage and library categories and the impact felt by the other culture categories. This distinction between the heritage and library categories and the other culture categories was made because heritage and libraries derive the vast majority of their revenues from government support and, from an occupational perspective, the bulk of those employed in the "heritage collection and preservation occupations" within the culture sector come from the heritage and libraries categories.

Excluding heritage and libraries, the impact of the global recession reduced real value-added output of the other culture categories by 5 per cent.[29] This 5 per cent reduction is 1 percentage point larger than for the economy as a whole. The results of a regression analysis show that a 1 percentage point decrease in real value-added output results in a 0.2 percentage point drop in employment for employees and a 0.4 percentage point weaker growth in employment for those who are self-employed.[30] These additional impacts were combined with those expected for the economy overall to suggest that self-employment would rise 3.4 per cent while the level of employees would fall 4.5 per cent. These figures were then applied to all of the defined culture occupations except for those in heritage collection and preservation occupations.

For the heritage and libraries occupational impacts, the 0.5 per cent difference between real value-added output losses and the estimated impact on employees calculated for the other occupational sectors was applied. Thus the impact of the 1.2 per cent decline in real value-added output from heritage and libraries was estimated to lead to a 0.6 per cent decrease in employment

[29] Note that heritage and libraries account for about 5 per cent of the total value-added output of the culture sector. Therefore, while the impact of the global economic recession reduced real value-added output of the culture sector by 4.8 per cent, excluding heritage and libraries, the impact on the other categories was a reduction of 5 per cent.
[30] The regression analysis used logged monthly data to account for first differences of self-employment, employee employment, and GDP (seasonally adjusted) from January 1981 to July 2009.

among employees in this occupational sector.[31] As well, with the decline in real value-added output in the heritage and libraries occupations being 2.8 percentage points smaller than the decline for the economy as a whole, the regression results imply that self-employed employment for this group will be 1.1 percentage points stronger than that for the overall economy, translating into an estimated increase of 4.9 per cent.[32]

In aggregate, the Conference Board estimates that the global recession will reduce employment in the culture sector by 2.3 per cent, with declines of 1.2 per cent in the creative and artistic production occupations, 0.6 per cent in the heritage collections and preservation occupations, 3.9 per cent in culture management, 3.3 per cent in technical and operational occupations, and 4.1 per cent in manufacturing occupations.

The total employment earnings for the sector were derived by considering the effect that the global recession will have on unit labour costs. For commercial services, the analysis suggests that the impact of the global recession will increase unit labour costs by 0.15 per cent.

Any increase in unit labour costs were incorporated with our estimates for real value-added output changes to arrive at the estimated change in the level of real employment earnings paid for the sector overall. As was the case for employment, the calculation for real employment earnings differentiated between the impact felt by the heritage and library categories and those of the other culture categories. Excluding heritage and libraries, the global recession will reduce employment earnings paid in the culture categories by 4.85 per cent.[33] For heritage and libraries, the same calculation resulted in an estimated 1.05 per cent decrease in total employment earnings paid.[34] Finally, the impact on average employment earnings was calculated by dividing total employment earnings paid by the number of workers (self-employed plus employees) to yield a reduction of 0.4 per cent.

[31] The 0.5 per cent difference was calculated by subtracting the change in employees (4.5 per cent) from the change in real value-added output (5 per cent).
[32] Note that self-employment among heritage collection and preservation occupations is very small, less than 1 per cent.
[33] The 4.85 per cent impact on employment earnings was calculated by adding the change in unit labour costs (0.15 per cent) to the change in real value-added output for the culture categories, excluding heritage and libraries (5 per cent).
[34] The 1.05 per cent impact on employment earnings was calculated by adding the change in unit labour costs (0.15 per cent) to the change in real value-added output for heritage and libraries (1.2 per cent).