Reinvesting in America:

An Analysis of the Cable Industry's Impact on the U.S. Economy

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Reinvesting in America: An Analysis of the Cable Industry's Impact on the U.S. Economy prepared by Bortz Media & Sports Group provides an insightful chronicle of the important and pervasive impacts that the cable industry has had on the U.S. economy.

This report provides detailed estimates of three key cable industry impacts from 1990-2002: 1) cable's significant and pervasive impact on the U.S. economy and economic growth; 2) fundamental changes in the television viewing and communication habits of Americans brought about by cable; and 3) cable's rebuilding of the U.S. telecommunication infrastructure to enhance the long-term competitiveness and efficiency of this country.

As Bortz Media notes, at the macroeconomic level, the cable industry (directly and indirectly) accounted for 1.1 million jobs in 2002 and approximately 3% of U.S. job growth from 1990-2002. These are significant contributions for any industry, particularly one that has realized most of its growth in the last 30 years.

At the microeconomic level, cable's impacts are equally impressive. The cable industry is located in all 50 states; affects virtually every industry in the economy; generates employment in most communities in the U.S.; and contributes substantially to state/municipal coffers, charities, and non-profit organizations.

Bortz Media identifies a number of significant and notable impacts the cable industry has produced for American television viewers in the past 12 years. These include: (1) a significant increase in customer choice and program variety [made possible by a two-thirds increase in a "typical" cable system's bandwidth (i.e., channel capacity), a more than doubling in the number of channels available to the average cable subscriber, a 350% increase in the number of national cable networks (since 1992), and an ever expanding ability to provide differentiated niche alternative programming to that provided by broadcast television]; (2) a very notable increase in the quality of cable programming [as evidenced by a 650% increase in basic network program spending, a 410% increase in average program investment per basic network, and the many awards received by cable networks from the Golden Globes and the Emmy Awards]; (3) making digital cable available to 90% of cable households; (4) making commercial-free Cable in the Classroom available to 86 percent of U.S. students; and (5) providing all of the funding to make C-SPAN, C-SPAN 2 AND C-SPAN 3 available to the American public. As a result of the above, total viewing of basic cable increased 80% in cable homes (since 1990), and basic cable networks' aggregate primetime viewership exceeded that of the seven broadcast networks combined (in 2002). Additionally, from a communication standpoint, the cable industry has helped speed the migration from narrowband to broadband data communication and has started to provide a competitive alternative to the local telephone company.

This report also chronicles the cable industry's role in rebuilding the U.S. telecommunication infrastructure. The industry has invested in excess of $75 billion to upgrade the "last-mile" infrastructure to a high bandwidth (750 MHz), two-way high-speed communications medium. As of year-end 2002, more than three-fourths of all cable subscribers have access to such upgraded facilities.

In order to finance this massive rebuilding effort, the cable industry re-invested approximately 72% of the cash flow (EBITDA-earnings before interest, taxes, depreciation and amortization) it generated during the 1996-2002 period. Since passage of the 1996 Telecommunications Act, cable investors have foregone current dividends in order to undertake this aggressive rebuilding effort. Cable investors have chosen to postpone current distributions of cash flow in order to re-build America's telecommunication infrastructure.

The fruit of the cable industry's reinvestment will be harvested in the future as this advanced communication infrastructure: 1) enhances the worldwide competitiveness of the U.S. business community, 2) reduces long-term communication costs for households and businesses, and 3) facilitates the realization of the economies of scale required to unleash the creative talents of individuals and bring new programming ideas and products to market.

In sum, Bortz Media & Sports Group's Reinvesting in America is a welcome update to Bortz Media's earlier work in this area (most recently Impact '90: A Report of Cable Television's Impact on the U.S. Economy). The wealth of useful facts and information provided in the report, about how the cable industry has evolved over the past 12 years, makes it a must read for anyone interested in the telecommunications industry (e.g., policy makers, practitioners, analysts, educators, etc.).

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INTRODUCTION

Bortz Media & Sports Group, Inc. was retained to update its 1990 study for Daniels & Associates which evaluated the impact of the cable industry on the United States economy. This report sets forth the results of that analysis, including estimates of the direct and indirect impact of the industry on employment, personal income and gross output. In addition, an overview of other industry contributions is provided, focusing on infrastructure and new services deployment, the provision of programming choice, the industry's influence on American television viewing habits, and cable's role in ensuring competition in the Internet access and residential telephony markets.

The report is divided into three sections:

- Section I briefly summarizes the methodology and objectives of economic impact analysis, and details the flow of funds between cable operators and their key suppliers.

- Section II details the direct, linked and total economic impacts attributable to the cable industry in 2002, and reviews the growth in the industry's economic contributions since 1990.

- Section III examines other cable industry contributions and impacts, emphasizing programming, viewing and the use of technology to bring new services to U.S. households.

Finally, Appendix A to the report provides a more detailed discussion of the study methodology and the range of data sources used to compile the impact estimates.

Bortz Media gratefully acknowledges the assistance of many firms and individuals both inside and outside the cable industry, in providing the information necessary to complete this report.

EXECUTIVE SUMMARY

The cable industry is an important provider in the delivery of entertainment and information to the American consumer, and has a significant and rapidly growing role in the delivery of telecommunications services. Through the aggressive re-investment of capital over the past several years, the industry has put in place a broadband infrastructure that supports the ongoing expansion of the range of services provided to the American consumer. In the process of making this infrastructure investment to provide services that the American public wants, the industry has exerted a substantial impact on the United States economy.

Cable Industry Economic Impacts

As of 2002, the cable industry (directly and indirectly) accounted for more than 1.1 million U.S. jobs representing over $42 billion in personal income. Gross economic output attributable to the industry amounts to more than $173 billion.

Other measures of the industry's economic impact include:

- Cable operator revenues in 2002 totaled more than $48 billion, providing direct employment to 176,000 people. Compensation to cable industry employees totals $8.9 billion.

- These cable industry employees can be found in all 50 states, reflecting the overwhelmingly local character of an industry comprised of close to 10,000 local cable systems.

- Cable industry suppliers provide another 131,000 cable-related jobs, representing personal income of $7.3 billion.

- Since 1990, direct and indirect employment attributable to the cable industry has more than doubled, increasing by more than 570,000 jobs. This growth amounts to nearly three percent of all net new jobs created by the U.S. economy over this 12-year period.

- Even considering only those employment increases attributable directly to cable operators and their immediate suppliers, growth since 1990 totals about 137,000 jobs – or 0.7 percent of net U.S. job growth.

- Cable's economic impacts are spread throughout all major sectors of the U.S. economy. The largest impacts are in the information and manufacturing sectors, each of which are critical to both the growth and the overall health of the economy.

Other Industry Impacts

In addition to the purely economic impacts described above, the cable industry has established the nation's most extensive broadband distribution infrastructure, has fundamentally altered the manner in which most Americans view television, and has

played a major role in changing the competitive landscape in telecommunications services.

Specific indicators of these contributions include:

- Since the passage of the Telecommunications Act of 1996, the cable industry has undertaken a massive infrastructure upgrade, investing approximately $75 billion to implement the new technology and create the additional bandwidth necessary to provide new services for consumers. In so doing, cable operators have invested the vast majority of their cash flow (defined here as earnings before interest, taxes, depreciation and amortization – or EBITDA) back into their systems.

- The immediate result of this investment has been the expanded availability of new services such as digital video and high-speed Internet service. Digital cable service is now available to more than 90 percent of cable customers, high-speed Internet service is available to more than 80 percent of cable homes, and telephony service provided by cable operators is growing rapidly. All told, consumers had registered their emphatic approval of these enhanced services by subscribing to more than 34 million total new service units (digital video, high-speed Internet and cable telephony) as of First Quarter 2003.

- Over the last decade the number of national basic and digital cable programming networks has grown from 87 (in 1992) to 308 (2002). In approximately the same time frame, the number of channels received by the average subscriber has more than doubled.

- As of the 2001-02 television season, viewing of basic cable programming measured against all TV households was more than two and a half times the level of ad-supported cable network viewing during the 1990-91 season. Within the universe of cable viewers, weekly usage has increased by almost 80 percent over the same time frame. In 2002, for the first time ever, the aggregate primetime viewership of ad-supported cable networks exceeded the combined primetime viewership of the seven broadcast networks for a full calendar year.

- As another measure of the industry's commitment to re-investment, the annual spending on programming by basic networks grew more than sixfold from $1.4 billion in 1990 to $9.2 billion in 2002. Among 22 networks for which data was available, average program spending during 2002 of $250 million per network was four times greater than the per network average for the same networks in 1990 – illustrating the increase in quality that has accompanied the growth in programming quantity.

- The cable industry annually contributes substantially to charities, non-profit organizations and state/municipal coffers on a nationwide basis. In 2002, the NCTA estimates that franchise fees totaled over $2 billion, reflecting funds paid directly to local municipalities. In addition, sales and use taxes associated with cable subscriptions amounted to over $1.4 billion in revenues to state and local government entities. Moreover, including both

cable operators and programming networks, the industry's public service announcements as well as cash and "in-kind" contributions to local and national non-profit organizations for 2002 are conservatively estimated to have exceeded $430 million.

SECTION I. CABLE INDUSTRY STRUCTURE AND FINANCIAL FLOWS

Economic impact analysis recognizes the interdependence among various sectors of the national economy – that dollars invested by a business or an industry help stimulate business activity and personal consumption throughout the economy. As a result, the presence and growth of a particular industry generates total economic effects several times larger than the industry itself. In this report, Bortz Media has applied the principles of economic impact analysis to the cable industry, based on our assessment of the industry's financial and investment characteristics.

This section briefly summarizes the attributes of economic impact analysis and the methodology employed in our assessment, followed by discussion of the major assumptions underlying our estimates of the cable industry's impact in 2002. These assumptions primarily include the structure of the industry, estimates of 2002 industry financial flows and the role and characteristics of cable industry suppliers.

Overview/Methodology

This economic impact analysis traces the flow of cable industry generated dollars (and related jobs and personal income) throughout the economy, recognizing that a portion of each dollar spent initially by the cable industry is re-spent several times. For example, assume that a cable subscriber pays his or her local cable operator for a subscription to Home Box Office (HBO). The cable operator then pays a portion of that subscription fee to HBO. HBO, in turn, pays a portion to its employees, who may then use that income to purchase goods and services. Ultimately, the dollars initially paid by the cable subscriber are re-spent many times over, by many different businesses and individuals, in many different sectors of the economy.

In measuring these re-spending effects, impacts are categorized as follows:

- *Direct impacts*. These are impacts generated directly by cable operators, including cable system jobs and employee income.

- *Linked impacts*. These are impacts generated by cable industry suppliers such as programming services, equipment manufacturers and professional services firms.

- *Indirect impacts*. Indirect impacts include: (1) economic activity generated by the purchase of goods and services by firms dependent upon the cable industry (i.e., linked suppliers), referred to as intermediate effects; and (2) induced effects, or economic activity generated by the purchase of goods and services by individuals whose incomes derive directly or indirectly from the cable industry.

For purposes of simplification, only direct, linked and total impacts (combining direct, linked and indirect impacts) are presented in this report.

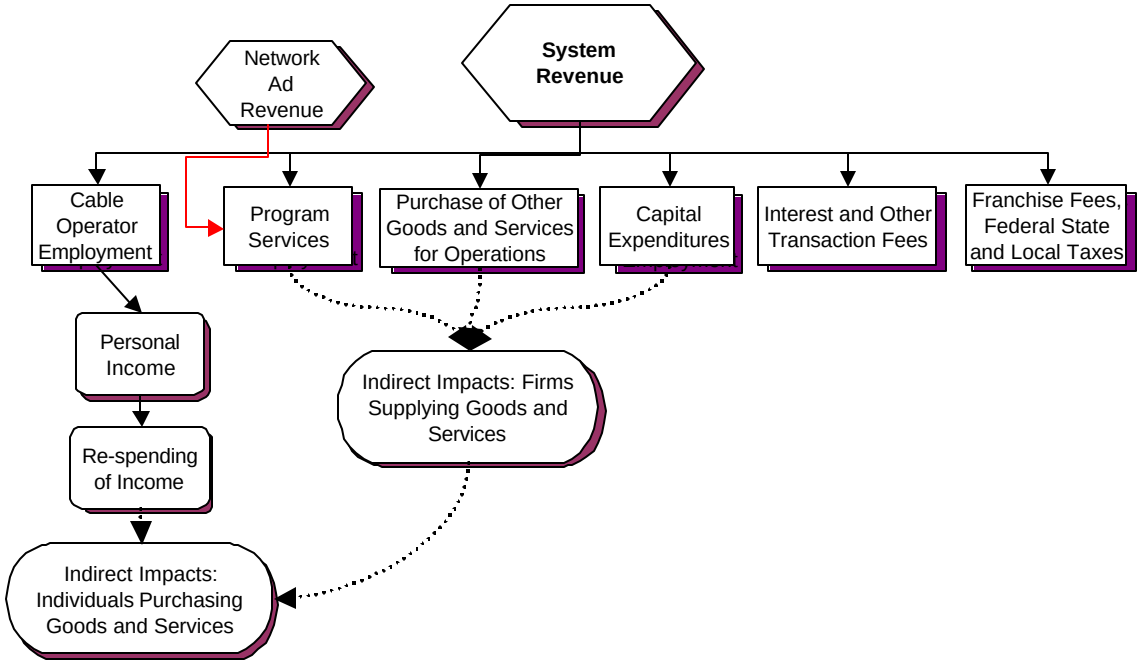
Bortz Media's impact estimation methodology is described in greater detail in Appendix A. Briefly, Bortz Media developed estimates of cable industry financial flows (including

both direct and linked economic activity), and allocated these flows into more than 40 separate economic sectors. Aggregate economic effects attributable to these financial flows were then estimated using multipliers obtained from the Regional Input-Output Modeling System (known as RIMS II) developed by the Bureau of Economic Analysis at the U.S. Department of Commerce. RIMS II provides a comprehensive tool for quantifying the linkages between economic sectors and estimating aggregate economic impacts.

Cable Industry Structure and Financial Flows

Figure I-1 depicts the overall structure of the cable industry and the resulting flow of economic impacts generated by the industry. As the figure indicates, the industry captures subscription and other revenues from the sale of cable television services, high-speed Internet access services and telephony services. In addition, both cable operators and cable networks generate revenue from the sale of advertising, although the vast majority of these advertising revenues go directly to the basic cable networks.

Figure I-1. Flow of Economic Impacts Generated by the Cable Industry



These revenues, and (more specifically) the manner in which they are spent to deliver the services provided, are reviewed in the remainder of this section. In particular, four aspects of the industry structure are the focus of the discussion:

- System operations
- System capital expenditures
- Financing activities (including system sales)
- Network advertising

System operations. The majority of the cable industry's impact is attributable to revenues and expenditures by the nearly 10,000 local cable systems serving communities throughout the U.S. Revenues generated by these systems are estimated to have exceeded $48 billion in 2002, or almost triple the industry's revenues just over a decade ago (in 1990):[1]

Table I-1. Growth in Cable System Revenues, 1990-2002

Year	Cable System Revenues (Billions)
1990	$17.3
1993	22.5
1996	26.9
1999	34.5
2002	48.2

The vast majority of these revenues consist of subscription fees paid by consumers for video programming, high-speed Internet access, telephony services, and related equipment. A small fraction of operator revenues (about six percent) come from the sale of national, regional and local advertising and from other sources such as home shopping service commissions.

These revenues are utilized to compensate employees and to purchase goods and services necessary to operate the business (e.g., programming, system power and other utilities, pole and conduit rental, etc.). Funds remaining after direct and indirect (often G & A et al) operating expenses (termed "operating cash flow" or "EBITDA") are available for interest payments, taxes, capital expenditure investment and distribution. (As discussed further below, the cable industry has in recent years, including 2002, re-invested – in the form of capital expenditures – amounts approaching or even exceeding the industry's collective operating cash flow.)

Table I-2 below summarizes the flow of funds from operations during 2002 and compares these funds' flows to those in 1990:[2]

[1] Revenues for 1990 and 2002 are Bortz Media estimates; revenues for intervening years are based on Kagan World Media, *Broadband Cable Financial Databook 2002*, p. 7.

[2] Bortz Media estimates based on 2002 operating data for public cable companies; Federal Communications Commission (FCC), *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, December 31, 2002; and Kagan World Media, *Broadband Cable Financial Databook 2002*, p. 144.

Table I-2. Cable System Funds Flow Comparison, 1990 and 2002

	Billions	
	1990*	**2002**
Operating Revenues	$17.3	$48.2
Operating Expenses	9.8	30.4
Operating Cash Flow/EBITDA	$7.4	$17.8
Operating Margin	43.0%	36.9%

*Column does not add to total due to rounding.

These estimates reflect operations at both the system and corporate/headquarters levels.

It is important to note that, while cable operator revenues have grown substantially over the past 12 years, operating expenses have increased at a faster rate. As a result, operating cash flow, or EBITDA, margins in the industry have declined considerably.

Capital expenditures. In addition to operating revenues and expenses, cable operators also make ongoing capital investments in their systems. These capital expenditures reflect several types of activity, including upgrading of systems (to increase capacity and support new services), new construction (extending service to additional homes and businesses), purchase of customer premise equipment (e.g., digital set-top boxes, cable modems, telephony network interface units, etc.) and maintenance.

As indicated above, the cable industry's focus on upgrading its network infrastructure and deploying new services requiring the placement of new technology in customers' homes has resulted in very large capital expenditures in recent years. In 2002, sources estimate that cable operator capital investment totaled $14.6 billion.[3]

Estimated capital investment reflects both capitalized construction/maintenance labor and equipment/materials purchases. For the purpose of this analysis, estimates have been made regarding the proportion of labor expenditures paid to outside contractors relative to those paid to cable system employees. In addition, the equipment purchase component has been adjusted downward to account for the off-shore manufacturing of certain cable equipment.

Financing activities. Cable-related financing activities result in additional expenditures and economic impacts not accounted for in estimates of either system operations or capital spending. Financial transactions encompass both capital formation (i.e., debt and equity financing) and the purchase and sale of cable properties.

It is estimated that nearly $33 billion in new cable financing took place during 2002, with the issuance of private debt accounting for more than two-thirds of this total.[4] Public debt as well as public and private equity represent the industry's other sources of financing.

[3] Kagan World Media estimate. While we are reporting this published estimate, it should be noted that Bortz Media Multiple System Operators (MSO) survey results as well as our analysis of public company data indicate that total cable industry capital expenditures in 2002 may have exceeded $16 billion.

[4] Kagan World Media, *Cable TV Finance*, January 17, 2003.

Cable network advertising. Basic cable programming networks, such as ESPN and Cable News Network (CNN), generate revenues from two primary sources – license fees paid by cable operators and the sale of advertising. Operator license fees are accounted for in the cable system operating expenses set forth earlier. In contrast, advertising revenues of the basic networks (and other, smaller network revenue streams such as revenues derived from the syndication of programming) represent an additional source of funding for these programming services.

Growth in the number of networks, the number of households served by individual networks, and aggregate audience attracted by those networks have contributed to corresponding growth in gross cable network advertising revenues. Since 1990, gross cable network ad revenues have increased from less than $2 billion to more than $11 billion:[5]

Table I-3. Growth in Cable Network Gross Advertising Revenues, 1990-2002*

Year	Cable Network Gross Advertising Revenues (Billions)
1990	$1.9
1993	3.0
1996	5.1
1999	9.1
2002	11.2

*These revenues reflect payments made directly to cable programming networks by advertisers. They are separate and distinct from the local advertising revenues generated by cable system operators, which are estimated to have totaled about $3.3 billion on a gross basis during 2002.

Advertising agency commissions on these cable network revenues are estimated at almost $1.7 billion for 2002. In addition, these revenues (along with the network intake from license fees and other sources) fund the acquisition of programming, the compensation of employees and other network expenditures.

Advertising revenues generated by cable networks are a function of the networks' total reach, including households receiving the networks from cable operators as well as from other distributors (i.e., primarily DBS providers). For the purpose of this analysis, Bortz Media estimates that just under three-fourths of network advertising revenues can be attributed to the distribution provided by the cable industry.

[5] Bortz Media estimate based on Kagan World Media, *Economics of Basic Cable Networks 2003*; and estimates of revenues generated by regional sports and news networks.

Cable Industry Suppliers

Based on the funds' flows described above, cable operator expenditures during 2002 included more than $30 billion in operating expenses, nearly $12 billion in domestic capital expenditures[6] and over $500 million in commissions and other fees associated with operator financing activities. While a significant portion of these expenditures (about 21 percent) are paid directly to cable industry employees in the form of wages and other compensation, the vast majority are utilized to purchase goods and services from industry suppliers. In addition, advertising revenues flowing to cable networks (and related commissions to advertising agencies) as a result of distribution via cable system operators exceeded $8 billion in 2002.

Cable industry suppliers are found throughout most major sectors of the national economy. Many of these firms, such as utilities, leasing companies, financial/professional services firms and insurance carriers, provide services to cable operators as well as an array of other businesses. Other suppliers, such as programming networks, customer billing, certain manufacturers and construction firms, and brokers, specialize in the cable industry and garner all or a substantial majority of their revenue from cable companies.

The estimated overall distribution of 2002 cable expenditures among the various major economic sectors is summarized below, followed by a brief description of the principal suppliers represented within each sector.

Dollar flows. Bortz Media estimates that total cable-related dollars flowing to firms directly supplying goods and services to cable operators approximated $42 billion during 2002:[7]

[6] This figure is smaller than the total capital expenditure estimates discussed elsewhere in this report due to the exclusion of the portion of capital investment that is spent outside the U.S. (Cable operators purchase over 90 percent of their equipment and materials from U.S.-based companies. However, certain electronics and other components are manufactured outside the U.S.)

[7] Total linked economic activity is the sum of cable operator expenses (including domestic capital investment and fees related to financing activities) plus the cable-related advertising revenues of basic cable networks, less direct employee compensation, bad debt, certain taxes and other payments to governmental entities. Distribution by sector is a Bortz Media estimate based on the NAICS classification format of the U.S. Department of Commerce. Our use of the NAICS format (adopted in 1997 to replace the historical Standard Industrial Classification or SIC) is discussed in more detail in Appendix A.

Table I-4. Cable Industry Linked Supplier Revenues, 2002

Economic Sector	2002 Linked Supplier Revenues (Billions)
Utilities	$0.6
Construction	3.3
Manufacturing	10.0
Transportation/Warehousing	0.1
Wholesale and Retail Trade	1.9
Information	19.4
Finance/Insurance	0.7
Real Estate	2.1
Prof./Mgmt./Admin. Services	4.4
Arts/Ent./Rec./Other Services	0.1
TOTAL*	$42.4

* Column may not add to total due to rounding.

The information sector obtains by far the largest revenues from the cable industry, due primarily to the roughly $18 billion in cable industry expenditures captured by programming networks in the form of license fees paid by cable operators and advertising revenues generated directly by the networks.

Utilities. This sector includes payments by cable operators for system power and general heating, lighting and water needs. Expenditures during 2002 are estimated to have exceeded $550 million, primarily to power utilities to cover pole/conduit rental and meet system power requirements. Because local cable systems serve communities throughout the country, these expenditures are distributed among utilities across the United States.

Construction. This sector reflects payments by cable operators to providers of contract construction services. Expenditures, which are estimated at more than $3.3 billion for 2002, are used primarily to acquire labor and services connected with system rebuilds and line extensions (i.e., the deployment of the cable network infrastructure to new or previously unserved buildings and housing developments).

Manufacturing. The bulk of cable capital expenditures (as well as some maintenance and replacement-related operating expenses) go toward the purchase of subscriber equipment – including digital set-top boxes, cable modems and telephony network interface units – and "network" products including fiber optic and coaxial cable, head-end equipment and node electronics.

As discussed earlier in this section, the vast majority of cable industry purchases of this type are from U.S.-based manufacturers. However, the actual fabrication and assembly of many of these products occurs outside of the United States. Even so, we estimate that expenditures remaining in the U.S. amounted to $10 billion in 2002.

Transportation/warehousing. This sector receives only modest expenditures from the cable industry, principally associated with air travel by cable employees.

Wholesale and retail trade. Cable operators are estimated to have purchased $1.9 billion in wholesale and retail goods during 2002. Most of these expenditures are for the typical materials and supplies necessary to run a business, including paper products, printed marketing materials, fuel for company vehicles, etc. Cable operator purchases from wholesalers of cable-specific equipment could not be broken out and are therefore included in the manufacturing sector.

A specific note with respect to retail sales is the cable industry's provision of home shopping program services such as QVC Network, Home Shopping Network and Shop NBC. Retail sales of these companies during 2002 are estimated to have amounted to well over $6 billion, and the various providers report more than 19,000 employees (with the vast majority located in the U.S.). These sales (and their resulting economic impacts), while achieved primarily through the cable medium, are not directly accounted for in this study.[8]

Finance/insurance. Linked activities in this sector include commercial and investment banking and cable brokerage functions as well as business insurance. Particularly in the banking segment, providers to the industry include the major nationally based firms as well as a number of smaller firms specializing in the cable industry. The *Broadband Cable Financial Databook 2002* lists 65 lenders/investment bankers, 37 underwriters and 53 venture capital firms that report providing services to the cable industry.[9] In addition, more than 60 institutions are reported to have loans outstanding to the industry, with 11 of these having loan commitments in excess of $1 billion.

Bortz Media estimates that direct payments to the financial and insurance sector by the cable industry exceeded $700 million during 2002. Moreover, the industry is estimated to have paid more than $8 billion in interest payments in 2002 – a portion of these payments will be used by financial institutions to pay for the funds they loan (i.e., interest payments to depositors) while the remainder constitute net revenue to the financial institution. (The economic impact of these interest payments to financial institutions is not directly accounted for in this analysis.)

Real estate. Cable industry expenditures flowing to the real estate sector consist primarily of rental payments associated with land, office space and other facilities used by cable providers. These facilities are located throughout the country, and payments are spread among many different firms. Expenditures during 2002 are estimated to have totaled $2.1 billion.

Professional/technical/management/administrative services. Cable industry payments to services firms in 2002 approached $4.4 billion. Commissions to advertising agencies and rep firms were the largest single services category, accounting for nearly half of this total. Other major categories included data processing services, legal, IT and

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[8] While made possible by distribution on cable systems, these retail sales involve finished products developed and manufactured by other industries. As such, it was determined that these sales should be excluded from the analysis.

[9] Kagan World Media, *Broadband Cable Financial Databook 2002*, various pages.

accounting services, and collections. These payments flow to literally thousands of local firms spread throughout the country.

Arts/entertainment/recreation and other services. Payments flowing directly to these sectors are modest (less than $100 million in 2002), and include the portion of copyright fees that are paid to sports leagues and franchises. It is important to note that payments to sports entities, as reported here, do not include sports rights payments – which are typically a payment made by cable program networks rather than by cable operators. These payments (and their impacts) are discussed separately in Section III of this report.

Summary. More than $42 billion flowed directly to cable industry suppliers during 2002. The employment and personal income created by these expenditures and the subsequent economic impacts resulting from the flow of these dollars throughout the U.S. economy are described in Section II.

SECTION II. ECONOMIC IMPACTS OF THE CABLE INDUSTRY

This section summarizes the impacts of the cable industry on the United States economy in terms of jobs, personal income and total economic activity. Direct, linked and total impacts are analyzed.

Direct Impacts

Direct economic impacts include the jobs and personal income provided by the nearly 10,000 cable systems operating in the United States, as well as the regional and corporate offices of the MSOs that manage most of these systems.

Employment. Bortz Media has compiled information on cable operator employment from several sources, including the FCC, public cable company reports and presentations, analysis of key industry ratios/benchmarks such as the ratio of subscribers per employee, and responses of selected major MSOs to a survey developed for the purpose of this study. Based on these data, Bortz Media estimates that 2002 cable operator employment approximated 176,000. *This reflects the creation of almost 75,000 net new cable industry jobs over the past dozen years*.

Growth over recent years results from significant structural changes in the industry, attributable to the widespread roll-out of digital cable and high-speed Internet access services along with the selective deployment of residential telephony. Each of these new services is labor intensive, requiring incremental sales, installation, customer service and technical/maintenance personnel. As a result, it is our belief (supported by industry data) that the ratio of subscribers per employee has declined steadily over the last few years. Stated another way, proportionately more cable personnel are now required to support the increasing array of services offered to an individual subscriber.

Direct employee compensation. Direct cable operator employee compensation (including benefits, as well as capitalized in-house labor) is estimated to total $8.9 billion for 2002. Excluding capitalized labor costs, employee compensation accounts for approximately 27 percent of cable industry operating expenses.

Linked Economic Activity

As noted in Section I, linked economic activity encompasses the jobs, income and related economic effects of firms supplying goods and services to cable system operators. Based on the dollar flows from the cable industry to these firms (see Section I), the cable-related activities of cable industry suppliers are estimated to have accounted for 131,000 jobs and $7.3 billion in employee compensation during 2002 (as summarized below on Table II-1):

Table II-1. Cable Industry Linked Supplier Employment and Employee Compensation, 2002

	2002 Linked Suppliers	
Economic Sector	**Employ-ment**	**Employee Compensation (Millions)**
Utilities	900	$60
Construction	22,300	860
Manufacturing	28,400	1,340
Transportation/Warehousing	200	10
Wholesale and Retail Trade	4,400	130
Information	34,600	2,770
Finance/Insurance	1,500	70
Real Estate	7,400	220
Prof./Mgmt./Admin. Services	31,100	1,870
Arts/Ent./Rec./Other Services	400	30
TOTAL*	131,200	$7,340

* Columns may not add to total due to rounding.

The information sector (which includes cable program networks) is the largest linked supplier category in terms of both employment and employee compensation, with nearly 35,000 cable-related employees and almost $2.8 billion in cable-related compensation. In addition, the professional/management/administrative services, manufacturing and construction sectors all provide more than 20,000 cable-related jobs.

Combined Direct and Linked Impacts

Combining direct and linked employment provides a particularly useful depiction of "the cable industry" (i.e., the employment and income generated by cable operators and their immediate suppliers of goods and services). In 2002, total employment on this basis approximated 307,000, while compensation of those employees amounted to more than $16 billion:

Table II-2. Cable Industry Combined Direct and Linked Impacts, 2002

	Direct Plus Linked Impacts
Employment	307,200
Employee Compensation (Millions)	$16,200

Total Economic Impacts

Total economic activity associated with the cable industry extends far beyond the direct and linked impacts summarized above. As noted in Section I, additional economic effects are created by:

- Economic activity generated by the purchase of goods and services by firms dependent on the cable industry (intermediate effects); and
- Economic activity stimulated by the purchase of goods and services by individuals employed as a result of the cable industry (induced effects).

The total impacts attributable to the industry can be measured in the form of job creation and resulting personal income, as well as in the form of total output. As described further in Appendix A, estimation of these total impacts derives from the application of economic impact multipliers – in this case, multipliers developed by the Bureau of Economic Analysis of the U.S. Department of Commerce.

Employment and income. Total employment associated with the cable industry during 2002 (including direct, linked and indirect effects), is estimated at more than 1.1 million. Total 2002 earnings attributable to the industry were in excess of $42 billion:

Table II-3. Cable Industry Total Economic Impacts, 2002*

	2002 Total Impacts	
Economic Sector	**Employ-ment**	**Earnings (Millions)**
Agriculture/Mining	3,000	$90
Utilities	8,400	350
Construction	81,200	2,730
Manufacturing	210,800	7,590
Transportation/Warehousing	7,700	260
Wholesale and Retail Trade	67,200	2,070
Information	538,700	21,600
Finance/Insurance	33,100	1,300
Real Estate	13,900	430
Prof./Mgmt./Admin. Services	127,300	4,540
Arts/Ent./Rec./All Other Services	43,200	1,300
Public Administration	106,500	3,640
TOTAL**	1,134,400	$42,270

* As noted above and in Appendix A, total impacts combine direct, linked and indirect impacts. Estimates of indirect impacts (or "re-spending effects") are derived by applying U.S. Department of Commerce multipliers for each industry sector to Bortz Media estimates of direct impacts.

** Columns may not add to total due to rounding.

The information sector (which includes the cable industry's direct employment and compensation impacts) is by far the largest sector in terms of cable-induced employment. The greater relative importance of the trade and services sectors in

comparison with the distribution of linked supplier impacts is a function of personal consumption patterns, which account for a significant portion of indirect economic impacts.

Finally, over 100,000 government jobs are induced by the cable industry. Most of these positions are found at the state and local level.

Output. Economic output impacts (as estimated in this report) reflect the total value of all cable-related transactions as they occur throughout the economy. Specifically, gross output measures the sum of the revenue received by firms at each step in the distribution process.[10] The gross 2002 output associated with the cable industry is estimated at $173 billion. [See Table II-4.]

Cable Industry Growth: 1990-2002

As indicated in Sections I and III, the cable industry has experienced rapid growth over the last several years. The economic implications of this growth can be seen by comparing the industry's economic impacts in 2002 to those estimated in a similar 1990 analysis conducted by Bortz Media principals.[11] This comparison illustrates that the direct and linked employment attributable to the cable industry has nearly doubled, growing from 170,000 employees in 1990 to 307,000 in 2002. Similarly, total employment impacts (including indirect effects) have increased from 561,000 employees (1990) to more than 1.1 million for 2002. Similar growth patterns are evident in other major measures of the industry's impact:

[10] By way of example, assume that the raw materials (or components) used in a digital cable set-top box are sold to a manufacturer for a total of $25, the manufacturing process for the unit contributes an additional $75 in "value-added" (resulting in a wholesale price of $100), and the final "retail" price to the cable operator is $200. In this case, gross output is the sum of all three "prices" charged for the product at the three steps in the distribution chain, or $325.

[11] Certain methodological differences exist between the current report and the analysis completed for 1990. As such, some caution is warranted in inferring trends from a comparison of the two studies. However, the overall similarities in assumptions and methodology are considerable, and comparisons of overall findings are therefore believed to be instructive regarding overall industry growth patterns.

Table II-4. Cable Industry Growth Indicators, 1990-2002

Economic Indicator	Year 1990	Year 2002	Absolute Growth	Percent Change: 1990-2002
Cable Operator Direct Impacts:				
Revenues	$17.3	$48.2	$30.9	179%
Employment	101,400	176,000	74,600	74%
Employee Comp. (Billions)	$3.0	$8.9	$5.9	197%
Direct plus Linked Supplier Impacts:				
Employment	170,000	307,200	137,200	81%
Employee Comp. (Billions)	$5.2	$16.2	$11.0	212%
Total Economic Impacts:				
Employment	561,000	1,134,400	573,400	102%
Earnings (Billions)	$18.2	$42.3	$24.1	132%
Gross Output (Billions)	$65.6	$173.4	$107.8	164%

In creating (directly and indirectly) over 570,000 net new jobs in the last 12 years, the cable industry has played a significant role in the growth of the overall U.S. economy. Specifically, the growth in the industry's total employment impact accounts for 2.9 percent of all net new jobs created in the U.S. during this period.

SECTION III. OTHER CABLE INDUSTRY PERSPECTIVES

Sections I and II of this report detailed the cable industry's impact on the United States economy, focusing on cable's creation of jobs and income and its contributions to the nation's economic growth. This section highlights the many other impacts of the cable industry, including the development of a pervasive broadband infrastructure, the use of that infrastructure to deliver new video and telecommunications services to customers, a profound impact on American television viewing habits, a contribution to increased investment in new and innovative television programming, and substantial monetary and non-monetary contributions to the communities it serves.

Cable Industry Infrastructure Investment

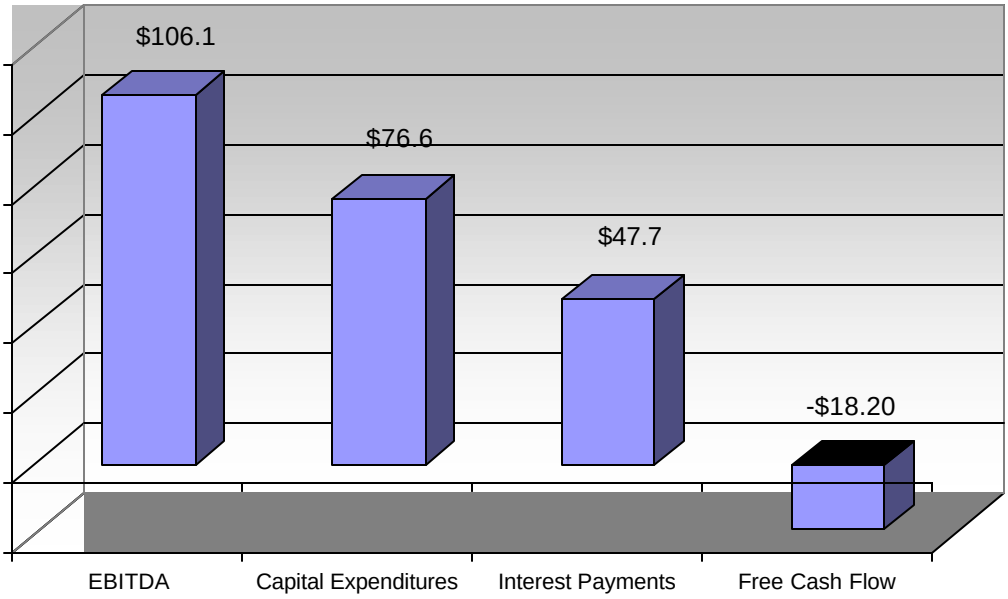
Cable operators engage in a capital-intensive business that requires substantial investment to maintain and upgrade the extensive network infrastructure needed to provide service. In fact, it is the consistent pattern of re-investment to support infrastructure enhancements and new services that is the cable industry's hallmark. Since 1996 (and the passage of the Telecommunications Act), the industry has undertaken a massive infrastructure upgrade, investing over $75 billion to create additional bandwidth for new services for customers.[12]

To illustrate the magnitude of the re-investment commitment made by the industry, it is useful to examine the relationship of capital spending to system cash flow, which is defined here as earnings before interest, taxes, depreciation and amortization (or EBITDA). This provides a measure of the proportion of cable company cash flows that are invested in the ongoing maintenance of and improvements to their systems. As illustrated below on Figure III-1, the cumulative capital investment of cable operators since the Telecommunications Act of 1996 has amounted to nearly three quarters of the EBITDA produced by these companies.[13] When interest obligations are also taken into account, the industry's "free cash flow" (i.e., funds available for distribution to investors and/or debt reduction) has actually been negative over recent years.

[12] Bortz Media estimates based on Kagan World Media, *Broadband Cable Financial Databook 2000* and *2002*, and company reports.

[13] Ibid.

Figure III-1. Cable Industry Capital Re-investment, 1996-2002 (in billions)



Source: Bortz Media estimate based on Kagan World Media, *Broadband Cable Financial Databook 2000 and 2002* ; and company reports.

The immediate result of this massive re-investment has been the expansion of system bandwidth, with this added capacity then enabling cable operators to very quickly make available new services such as digital video and high-speed Internet access to the vast majority of cable customers.

Bandwidth. As recently as 1996, the "industry standard" for system bandwidth was 450 MHz or less, with fewer than 20 percent of subscribers served by systems with bandwidth meeting or exceeding this level.[14] By the end of 2002, however, systems representing approximately 80 percent of homes passed provided bandwidth of 750 MHz or greater.[15] In addition, the delivery of telecommunications services has been enabled by the activation of cable's "return path," making the cable plant a two-way communications network for more than four-fifths of cable homes passed as of the end of 2002.[16]

Digital video. As of year-end 2002, digital cable service and the greatly expanded range of programming it provides was available to more than 90 percent of cable customers. In addition, approximately 30 percent of U.S. cable households – or 19 million customers – subscribed to digital video service.[17] The digital tier (and the sophisticated set-top converters that accompany the tier) not only features a wide array

[14] Warren Publishing, Inc., *Television & Cable Factbook* , 1997, Services Volume.

[15] Kagan World Media, as reported by NCTA.

[16] Ibid.

[17] Bortz Media estimate based on Kagan World Media, various sources and dates; and cable company reports.

of new digital programming services, but may also offer new options including video-on-demand, HDTV and interactive television.

High-speed Internet service. The cable industry's greatly expanded bandwidth and upgrade to two-way capabilities enables very fast transmission speed for Internet service – up to 100 times faster than telephony dial-up transmission speeds. In addition, the cable connection to the Internet is "always on" and does not interfere with normal telephony activity or usage. While more than 80 percent of homes passed by cable have access to this high-speed service as of year-end 2002, cable's primary competitors in this market segment – major telephony companies – have made their own high-speed Internet service offering (i.e., DSL) available to fewer than 60 percent of their customer locations. It is not surprising, then, that by the end of the First Quarter 2003, the cable industry had more than 12 million high-speed Internet service customers, or roughly twice the customer base of its DSL rivals.[18]

Cable telephony. The cable industry continues to be a leader in bringing facilities-based circuit switched local telephony competition to residential and business customers. As of year-end 2002, major cable operators had more than 2.5 million telephony customers.[19] In addition to the deployment of circuit-switched telephony, several companies have begun trials of voice over IP service.

Cox Communications' experience in providing telephony service is particularly illustrative. With more than 782,500 residential telephony customers in the First Quarter 2003– making it the 12th largest U.S. telephony company -- Cox has succeeded in capturing nearly a third of the residential telephony business in two of its primary markets – Orange County, California and Omaha, Nebraska.[20]

Other new services. As noted above, as cable operators upgrade their systems with digital capability and two-way plant, they may offer other services such as: 1) video-on-demand (VOD) – a "per use" programming service which enables viewers to order and watch movies and other programs on demand and to pause, rewind or fast-forward them; 2) subscription VOD – a VOD service offered at a flat monthly rate that provides viewers with unlimited access to select programs from the libraries of featured cable networks; and 3) enhanced TV services – services that enable viewers to access further information about the television programs and advertising they're watching. Cable operators are also testing home networking and other new products and services.

By the end of the First Quarter 2003, consumers had registered their emphatic approval of these enhanced services by subscribing to over 34 million total new service units (digital video, high-speed Internet and cable telephony).[21] These overall results confirm the aggressiveness of the cable industry's commitment to re-investing funds it generates in its infrastructure to give consumers access to a broadly enhanced range of video, voice and high-speed data communication possibilities, while also offering improved signal reliability, better pictures and superior two-way transmission capability.

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[18] Bortz Media estimate based on Kagan World Media data and company reports.

[19] Ibid.

[20] Cox investor presentation, December 10, 2002, and First Quarter 2003 press release, May 5, 2003.

[21] Bortz Media estimate.

Viewing – The Importance of Choice and Quality

The infrastructure investment described above is the latest example of the cable industry's commitment to enhancing the services it provides. To be sure, the advent of digital technology, as well as the emergence of strong competition, has accelerated the pace at which appealing new services are deployed. Even so, recent trends are merely a continuation of a long tradition of providing the improvements and choices that consumers want.

The U.S. cable industry was launched in the early 1950's to bring broadcast television (network affiliates, independents and public stations) to those households that could not otherwise receive the full complement of signals off-air. This remained the driving force behind the industry well into the mid-1970's and accounted for the first 10 to 12 million industry subscribers.

As cable's early focus expanded to include urban settings during the late 1970's and early 1980's, the characteristics of cable's service offering changed as well. Today, as it has for sometime now, cable primarily sells programming variety or choice – programming in addition to, and predominantly different from, broadcast television. (As noted previously, customer choice has also evolved beyond just video programming to include offerings such as high-speed Internet service via cable modems as well as telephony service). Today, more than ever, the cable "sell" is contingent on providing a wide range of differentiated programming and services that consumers value and are willing to pay for, and on giving customers the flexibility to purchase all or only a fraction of those services.

The commitment and success of the cable industry over the years in creating and providing choice to its customers can be measured a number of different ways.

Channel availability. System channel capacity is one measure of program choice available to cable subscribers, and is reflected in the expanded bandwidth afforded by the recent cable system investments described earlier in this section. As indicated earlier, more than three-quarters of all cable subscribers are now passed by cable facilities that provide bandwidth of 750 MHz or greater. As reflected in FCC data, systems devote about three-fourths of this capacity to video delivery, which is then divided among analog channels and digitally compressed channels.[22] Digital compression allows for the delivery of additional tiers of video programming offering literally hundreds of programming choices. While this increased capacity is an essential part of the enhanced value that cable offers today, the industry well recognizes that not all of its customers have an interest in hundreds of programming choices. In fact, at all of the high capacity cable systems described above, some customers opt to purchase as few as 10 to 20 channels of video programming (i.e., "broadcast basic" subscribers), while others pay to receive 200 or more channels. The commitment to meeting this range of consumer interests is the essence of choice – as measured by the combination of quantity and flexibility.

Choice can also be discussed in terms of the number of basic cable channels available to the *average* subscriber, and it is still useful to consider the historical growth in this

[22] FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming" (Ninth Annual Report), December 2002; NCTA reports.

measure. The number of channels available to the average subscriber has more than doubled since 1986, growing from 27 channels then to 58 channels in 2001.[23] Another way of looking at increased choice is to consider the number of cable programming networks that reach 50 percent or more of U.S. television households. In 1995, 20 basic cable networks met this threshold, with only five cable networks available to more than 70 percent of U.S. television households. By year-end 2002, 45 networks met the 50 percent threshold, 22 of them had 70 percent or higher U.S. television household penetration, and 11 had 80 percent or higher penetration.[24]

Differentiated programming. While certain cable networks program some of the same broad appeal fare as broadcast stations, the industry's programming (especially through the "diginets" launched in the last few years) is characterized by its emphasis on service to narrowly defined audience segments. Networks focused on specific niches, including those providing ethnically-targeted programming, children's programming, and other areas such as news, food, health, movies, music, sports, etc., are continually growing in number. These services provide program types and formats generally unavailable to the broadcast-only audience, and provide greater depth and breadth (i.e., choice) within a particular niche to cable viewers.

For example, in the area of children's programming alone, cable networks have assumed a leadership position by providing numerous viewing options. In addition to such popular children's cable networks as Nickelodeon, Disney Channel, Toon Disney and Cartoon Network, whose programming is largely devoted to children and/or families, other networks such as The Learning Channel, ABC Family Channel, USA, HBO, Hallmark Channel and Discovery Channel consistently offer educational and entertaining programs for children as part of their regular formats. In addition, digital cable has recently introduced several more children's networks to the list, including Discovery Kids, WAM!, and Noggin. Recognizing the value and quality of cable's children's programming, major broadcast networks have turned to cable networks such as The Discovery Channel, Nickelodeon and The Disney Channel to supply content for their Saturday morning kids blocks of programming.[25]

In addition, there are numerous programming networks that devote many hours of their schedules to diverse audiences, as well as several entire networks devoted to specific racial or ethnic groups. Series such as *The Brothers Garcia* (Nickelodeon), *Dora the Explorer* (Nickelodeon) and *Resurrection Blvd.* (Showtime) serve Latino audiences, while networks such as Galavision and Canales n, a digital package of Spanish language services, also cater to Hispanics. African-American audiences are served by series on many networks, including the Disney Channel (*The Famous Jett Jackson, The Proud Family, Sister Sister, and That's So Raven*), Nickelodeon (*Kenan and Kel, Little Bill*), and Showtime (*Soul Food*). In addition, African American viewers are served by Black Entertainment Television (BET), Major Broadcasting Network (MBN), a minority owned and operated 24-hour cable network committed to providing wholesome entertainment for the whole family, and Black Starz!, a movie channel part of the Starz! family of channels created exclusively to meet the unique entertainment choices of the African American community. Ethnic audiences are additionally served by cable

[23] General Accounting Office, various years and studies.

[24] Kagan World Media, *Economics of Basic Cable Networks 2003*.

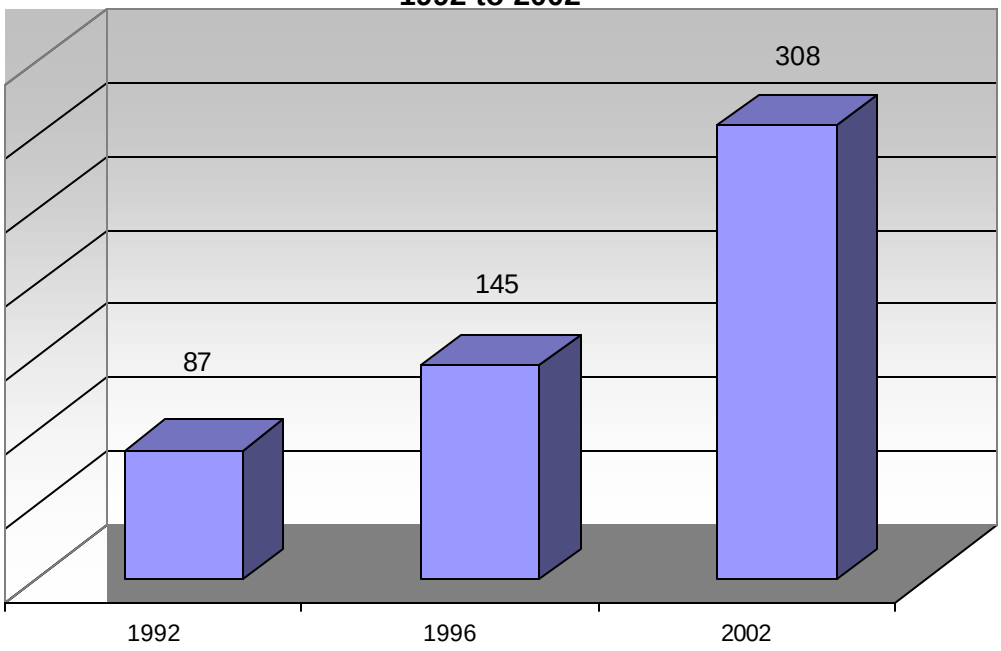
[25] Cable World, "Are Kids Tuned In?" September 9, 2002 p. 14.

channels such as TV Asia, the Filipino Channel, the International Channel and China's CCTV-4.

Cable networks devoted to programming for women include Lifetime (as well as Lifetime's two digital networks – Lifetime Movie Network and Lifetime Real Women), Oxygen and WE: Women's Entertainment. And in addition to Showtime's *Queer as Folk*, a comedy-drama that focuses on five young gay men and a lesbian couple living in Pittsburgh, Viacom is developing an entire cable network targeted at gay and lesbian viewers.

Finally, cable provides further choice in the form of premium movie services, regional networks (both sports and news totaling 85 networks available for carriage in 2002)[26] and home shopping channels. Figure III-2, below, illustrates the growth in the number of basic cable programming networks over the last decade:

Figure III-2. Increased Number of National Cable Networks, 1992 to 2002

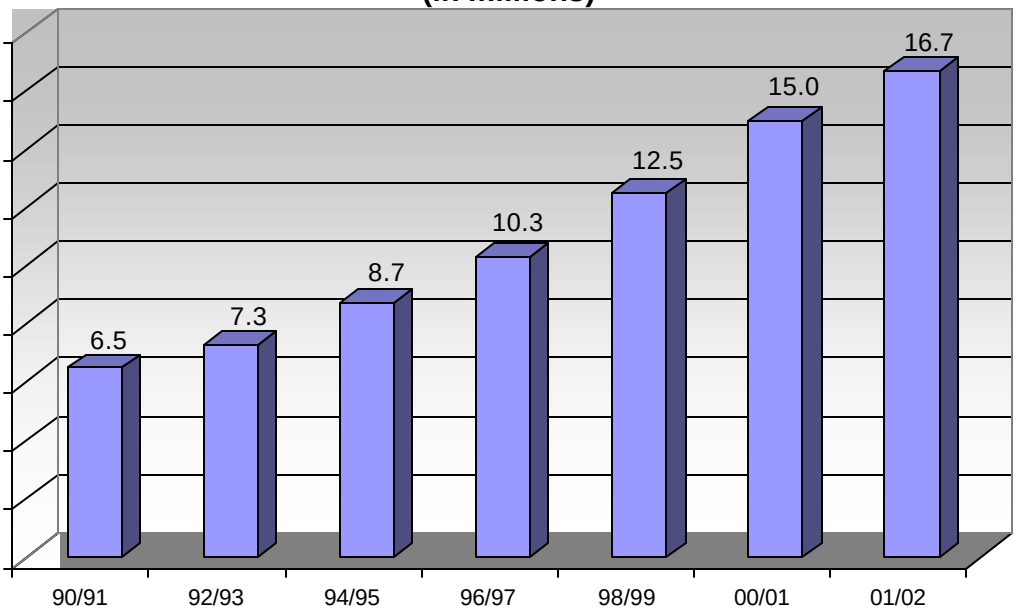


FCC, "Ninth Annual Report on Status of Video Competition;" NCTA .

Cable viewing. Viewing of cable-originated programming provides an even better indicator of the alternative programming choices cable now provides. As shown in Figure III-3, total viewing of basic cable measured against all TV households has increased two and half times since the 1990-91 television season.

[26] FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming" (Ninth Annual Report), December 2002.

Figure III-3. Basic Cable Total Day Household Delivery (in millions)



Source: Nielsen data as reported by Cabletelevision Advertising Bureau, *CableTV Facts 2002,* and *Week 52 of the 2001/02 Season,* September 2002.

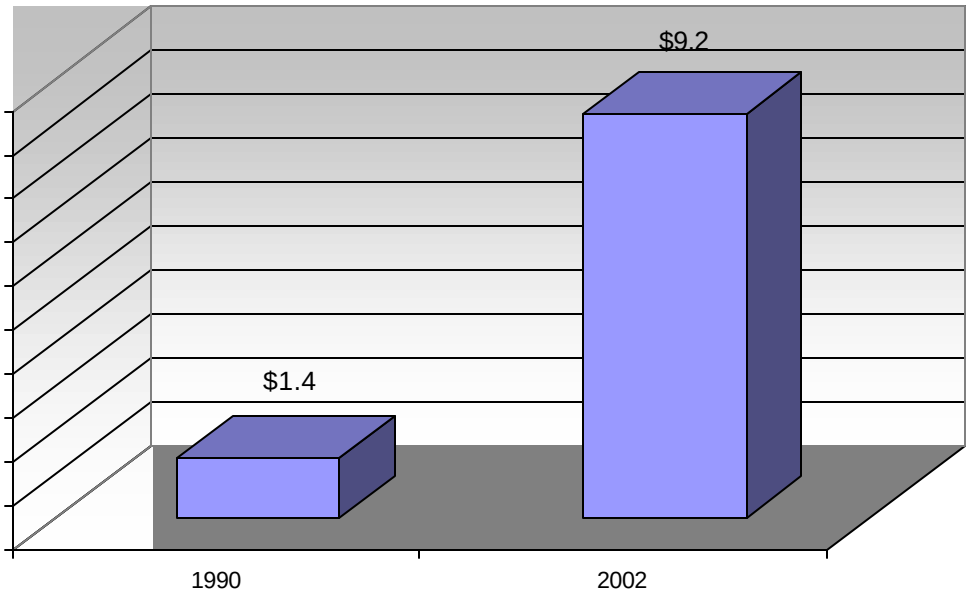
Moreover, within the universe of cable homes, usage has increased almost 80 percent since the 1990-91 season. The average cable home now devotes approximately 32 hours weekly to watching basic cable.[27] In 2002, for the first time ever, the aggregate primetime viewership of ad-supported cable exceeded the combined primetime viewership of the seven broadcast networks (ABC, CBS, NBC, Fox, WB, UPN and PAX) for a full calendar year.[28]

Program quality. The importance of this viewing shift, from an economic perspective, lies in the resultant increase in cable network advertising revenues. By re-investing these funds (as well as the rapidly growing license fees obtained from cable operators), cable networks are continually increasing the resources devoted to purchasing and/or producing better programming. As Figure III-4 illustrates, collectively, the annual spending on programming by basic networks grew more than sixfold from $1.4 billion in 1990 to nearly $9.2 billion for 2002:

[27] Bortz Media compilation based on Cabletelevision Advertising Bureau data.

[28] Cabletelevision Advertising Bureau, press release, www.cabletvadbureau.com /03PressReleases/030103.html.

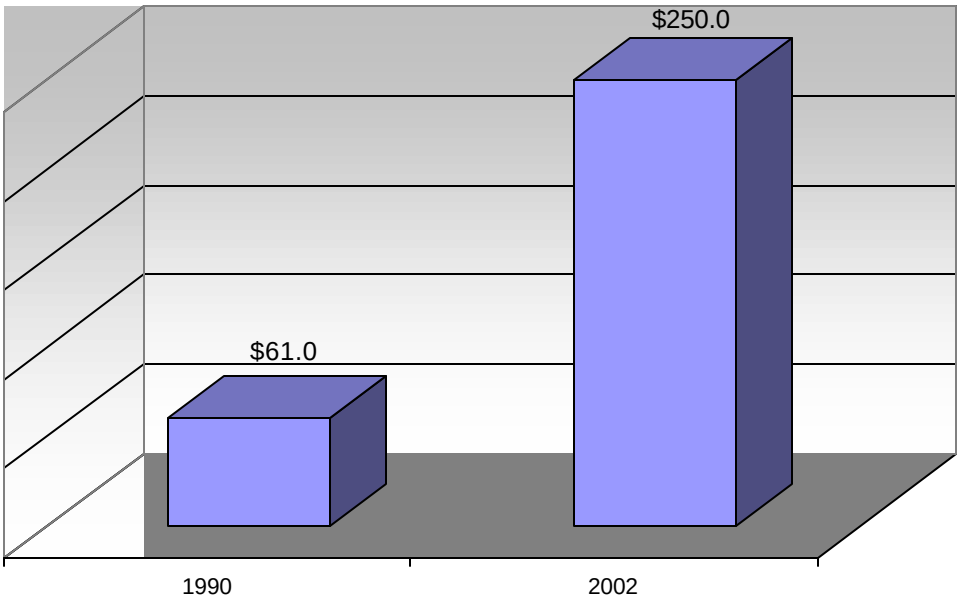
Figure III-4. Total Basic Cable Program Investment, 1990 to 2002 (in billions)



Source: Kagan World Media, *Economics of Basic Cable Networks 2003 (and 2002)*

It should be noted that growth in programming expenditures is not merely a reflection of the addition of new networks but also a reflection of increased spending on an individual network basis. As Figure III-5 illustrates, among the 22 networks for which data was available going back to 1990, average program spending during 2002 was $250 million per network – four times the $61 million per network average for this same group in 1990:

Figure III-5. Average Program Investment Per Basic Network, 1990 to 2002 (in millions)



Source: Kagan World Media, *Economics of Basic Cable Networks 2003 (and 2002)*

Another indicator of cable's ability and commitment to developing new programming comes from a recent survey of cable networks that revealed that original programming now comprises most of the weekly primetime hours on ad-supported cable.[29] According to the survey, 72 percent of national ad-supported cable networks' weekly primetime schedule is exclusive programming that was developed by or made specifically for cable networks.

Finally, the quality of cable programming is reflected in the number of major industry nominations and awards garnered by cable networks. In early 2003, cable networks HBO, FX and USA won 10 of the 11 Golden Globe awards dedicated to television.[30] In addition, HBO led all broadcast and cable companies in the number of nominations for the 2002 Emmy Awards with 93,[31] and cable networks overall garnered 192, or nearly half, of all nominations. This recognition from the Academy of Television Arts and Sciences further underscores the increasing quality of cable television programming and the resulting benefits to the cable viewing audience.

Cable Industry Contributions to Communities

The cable industry contributes substantially to charities, non-profit organizations and state/municipal coffers on a nationwide basis. These funds come in the form of franchise fees and sales/use taxes, programming services and on-air public service messages, equipment donations and direct cash contributions. With almost 10,000 individual cable systems operating in nearly every community in the country, the effect of these payments and contributions is felt directly by the communities served.

Financial contributions. Franchise fees paid by cable operators in 2002 are estimated to have totaled over $2 billion,[32] reflecting funds paid directly to local municipalities across the country. In addition, sales and use taxes associated with cable subscriptions amounted to over $1.4 billion in revenues to state and local government entities.[33]

Moreover, including both cable operators and programming networks, the industry's cash and "in-kind" contributions to local and national non-profit organizations for 2002 are conservatively estimated to have exceeded $170 million.[34]

These "in-kind" contributions included time, equipment and services to the communities in which its systems operate. Extensive donations of airtime for public service announcements were also provided by cable systems and cable networks. One source estimates the value of these donations at $261 million in 2002, up 61 percent from 2001.[35]

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[29] Cabletelevision Advertising Bureau, press release, www.cabletvadbureau.com/02PressReleases/021126.htm

[30] Variety, "HBO leads Globes TV charge," January, 20, 2003, as found at www.yahoo.com/news/va/20030120/104305349500.htm

[31] Academy of Television Arts & Sciences, press release, as found at www.emmys.com/primetime/2002/press/2002press-3.html

[32] NCTA.

[33] Ibid.

[34] Ibid.

[35] Cabletelevision Advertising Bureau, CAB Conference presentation, February 2003.

Community involvement. The cable industry's concerted effort to make sure that each of its systems becomes a positive, contributing member of the communities in which it operates frequently involves partnering between program networks and local affiliate cable systems to bring public affairs initiatives to their local communities. New programs are developed every year by the industry at both the national and local level, while many industry-wide programs also have been in place for a decade or more now. A few examples of public affairs initiatives – providing an indication of both industry-wide and local efforts, along with long-standing and new activities -- include:

- Comcast Corporation's "Comcast Cares Day 2001" received the Cable Television Public Affairs Association's 2002 Golden Beacon Award. Inspired by employees' participation in Philadelphia Cares Day – a citywide day of volunteer service – Comcast conducted its first-ever company-wide day of volunteer service. More than six thousand employees and their families participated in 110 community projects in 26 states, and the Comcast Foundation donated $610,000 ($100 for each employee volunteer) to post-September 11 relief efforts in New York and Washington, DC.

- VH1's "Save the Music" initiative, recipient of the Cable Television Public Affairs Association's 2001 Golden Beacon Award, strives to restore music education programs in America's public schools and to raise awareness of the positive influence music participation plays in child development. Since the program's creation in 1997, more than $17 million in musical instruments have been donated to 750 schools in 70 cities, affecting more than 250,000 students. By 2007, VH1 plans to have brought this program to one million children.

- Apart from these highlights, it should be noted that the Cable Television Public Affairs Association presented 80 awards in 2002, from among 420 entries – evidence of the strong and continuing commitment by the cable industry to community and public affairs.

- Cable in the Classroom (CIC), founded in 1989, represents the industry's effort to use cable content and new technologies to improve teaching and learning for children in schools, at home, and in their communities. Cable in the Classroom's contribution to schools has included, from the beginning, free cable service that provides access to commercial-free, copyright-cleared programming for taping (provided by about 40 cable networks), and now, high-speed Internet access through cable modems – a combined investment that totals in the millions annually. With 8,500 local cable company members, 86 percent of students nationwide (nearly 44 million) in more than 81,000 schools have access to cable's educational resources.

- CablePositive, the industry's AIDS action organization founded in 1992, unifies the talents and resources of the industry to raise AIDS awareness and fund AIDS education, research and care. Industry support comes from every major programming network, MSO, system, industry vendors and suppliers, trade associations and media publications, and comes in the form of fundraising events, cash and in-kind donations, programming and public service announcements, and other types of support.

Many members of the cable industry also encourage a charitable attitude on the part of their customers and local cable systems regularly donate time, space or services to community groups, with countless fund-raisers, telethons and public auctions either sponsored or telecast on local cable channels in local communities each year. Ultimately, the true impact of the cable industry's contributions to this nation's charities is impossible to accurately measure.

Public affairs. Additionally, cable companies continue to fund the operation of C-SPAN, C-SPAN 2 and C-SPAN 3, which offer coverage of the U.S. Congress, and cable systems throughout the country offer channel space for distribution of C-SPAN basic cable. In this same vein, the industry also supports and/or makes channel space available for the distribution of numerous "state C-SPANs," including on The Pennsylvania Cable Network, The California Channel and The Cable TV Network of New Jersey. Also, municipal-access channels on systems throughout the country provide viewer access to city council, school board meetings and other government activities.

Workforce diversity. Finally, through a number of organizations, the cable industry is actively pursuing diversity within its own ranks to better reflect the communities it serves. The Walter Kaitz Foundation administers the cable industry's diversity-focused website, which includes a job and resume bank. In addition, members of the National Association of Minorities in Communications (NAMIC) include cable operators, programmers, hardware suppliers and others. NAMIC engages in education and advocacy in support of diversity, including providing an online job bank and executive leadership and development program, as well as overseeing a mentorship program. Another industry group, Women in Cable and Telecommunications (WICT) administers an institute that assists women in the cable industry in the development of professional skills. Finally, the Emma Bowen Foundation was established by the cable and broadcast industries to increase the access of minority students to permanent job opportunities.

Cable's Production and Sports Links

The cable industry provides a major economic stimulus to both the program production and sports communities. In strict economic terms, the relationship between cable operators and programming and sports rights-holders is "indirect" – cable operators make payments to program services (e.g., HBO, ESPN) which in turn purchase programming rights from producers/distributors and sports entities. Even so, the link between cable operators and these programming sources is readily apparent.

Cable and the movie industry. For the motion picture industry, cable's role continues to increase in relation to theatrical exhibition, home video, broadcast television and other distribution modes. Whereas cable was originally a secondary distributor (e.g., cable product premiered on an alternative distribution vehicle), it is increasingly assuming a primary role. As has previously been mentioned, this was reflected in a recent survey of cable networks that revealed that original programming comprises most of the weekly primetime hours on ad-supported cable. Today, success for many cable program networks is very much driven by identifying, purchasing and/or creating original programming that sets them apart from their competitors – be that regular series, specials or movies. Production of cable-originated movies alone has grown from three cable networks producing 40 original movies in 1990 to more than a dozen cable

networks producing close to 80 films in 2001.[36] In addition, certain cable product originally airs on cable, followed by subsequent distribution on broadcast television. Major, award-winning original series such as *The Sopranos* and *The Shield* are an increasing part of the cable landscape. Between series and movies, these significant (and increasing) original programming commitments by cable networks ensure the continuing development of cable as a first-run outlet for producers/distributors.

Within the program syndication marketplace, cable is also a primary outlet for off-network hour series such as *Law and Order*, as well as increasingly a primary outlet for half-hour series such as *Friends* and *Seinfeld* – in these cases oftentimes bypassing the traditional run on local over-the-air stations.

Sports on cable. Cable has substantially increased the number of sports events available to its subscribers, and, in general, greatly increased the overall number of sporting events televised. The growth of sports on cable is largely attributable to the emergence of regional cable sports networks. Regional sports network subscriptions now exceed 90 million (on cable alone), with one or more regional sports networks serving nearly all of the top 40 television markets.[37]

The resulting income flowing to professional sports franchises from increased cable carriage at both the national and local levels has provided owners with an important incremental revenue stream. Similar benefits have been realized by collegiate institutions and other sports entities. As such, cable television is a key contributor to the continued financial health of the sports industry.

Monetary flows. Cable network program spending is estimated to have totaled more than $14 billion during 2002, including expenditures by basic networks (national and regional), premium services and for pay-per-view/video-on-demand delivery. As discussed in Section I, cable networks are distributed by DBS and other subscription television providers as well as cable system operators. As a result, only a portion of this programming investment can be attributed to the cable industry. Bortz Media estimates the distribution of "cable-attributable" expenditures to be as follows:

Table III-1. Cable-Related Network Programming Expenditures, 2002*

	Billions
Basic Networks	$7.8
Premium Networks	2.1
Pay-Per-View/VOD Services	0.5
TOTAL	$10.4

* Includes only the portion attributable to distribution by cable systems.

[36] Cable World, "Hot Fun in the Summer," July 1, 2002, p. 20.

[37] Kagan World Media, *Media Sports Business*, April 24, 2002, p. 4. Note that certain subscribers receive multiple regional sports networks; as such, the total number of homes receiving these services is somewhat lower than the reported subscription figure.

A portion of these programming dollars are spent internally by the cable networks. For example, the production costs associated with the news programming of CNN, CNBC, MSNBC, Fox News Channel and others are included in these estimates. However, Bortz Media estimates that about $6.0 billion of this total flows to the motion picture studios and other members of the production community. In addition, approximately $2.1 billion is paid to holders of sports rights.

Employment and income. The dollar flows described above stimulate employment and personal income in the program production/distribution and sports sectors of the economy. Based on Department of Commerce data for these sectors, the cable industry (at least indirectly) is responsible for nearly 22,000 jobs in the motion picture and video tape production sector and over 9,000 sports industry employees. These cable-related employees receive compensation totaling $1.4 billion (production) and almost $1.2 billion (sports):

Table III-2. Cable Industry Production and Sports Links, 2002

	2002 Sector Links	
	Sports Clubs/ Promoters	**Motion Picture/ Video Tape Production**
Revenues (Millions)	$2,100	$6,000
Employment	9,300	21,700
Employee Compensation (Millions)	$1,160	$1,410

APPENDIX A. METHODOLOGY AND DATA SOURCES

This Appendix describes the overall methodology used to estimate the cable industry's economic impact, and reviews the primary information sources on which Bortz Media's estimates and underlying assumptions are based.

Overview

Economic impact analysis is based on the interdependence of various economic sectors. In other words, impact analysis recognizes that economic activity in one sector of the economy stimulates activity in other sectors, and attempts to quantify these relationships. Each dollar created in one sector is essentially re-spent indefinitely (with steadily diminishing impacts), resulting in an economic effect greater than the original stimulus. Due to the complexity of tracking such dollar flows through the complete re-spending process, "multipliers" are used to estimate the total impact of activity in a sector. The multipliers used are derived from sophisticated mathematical models that replicate dollar flows in the economy.

In measuring economic effects, impacts are categorized as follows:

- *Direct impacts*. These impacts reflect the economic activity of cable operators themselves, including cable system jobs and employee income.

- *Linked impacts*. These impacts reflect the cable-related economic activity of cable industry suppliers such as programming services, equipment manufacturers and professional services firms.

- *Indirect impacts*. Indirect impacts include: (1) economic activity generated by the purchase of goods and services by firms dependent upon the cable industry (i.e., linked suppliers), referred to as intermediate effects; and (2) induced effects, or economic activity generated by the purchase of goods and services by individuals whose incomes derive directly or indirectly from the cable industry. Indirect impacts are also sometimes termed "re-spending" effects.

For purposes of simplification, only direct, linked and total impacts (combining direct, linked and indirect effects) are presented in this report.

Based on the factors described above, this study included two key steps: (1) estimation of the direct revenue flows both to cable operators and from cable operators to their direct suppliers; and (2) projection of economic impacts attributable to these flows.

Direct Dollar Flow Estimation

Cable operator revenues, expenditures and the allocation of these expenditures by economic sector were estimated based on data from the following sources:

- Review and analysis of 2001 and 2002 (nine months) operating and financial statements for the major publicly held cable multiple system operators, along

with a review of various investor presentations providing more detail on individual revenue and expenditure categories.

- A survey of major MSOs (representing over 90 percent of all cable subscribers), as well as of the parent companies of the major cable programming networks. These surveys obtained information on employment and employee compensation, as well as the disposition of certain key expense and capital investment categories.

- Review and analysis of detailed operating data from certain individual cable systems.

- Review and analysis of various data from the Federal Communications Commission's *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, as well as FCC data on cable operator employment.

- Review of various industry level economic data for the cable industry from the U.S. Department of Commerce Bureau of Economic Analysis.

- A comprehensive review of available secondary source data including information from the National Cable & Telecommunications Association (NCTA), Kagan World Media, the Cabletelevision Advertising Bureau (CAB), cable trade publications and various other sources. These data sources have been cited when used directly.

- Interviews with selected industry executives.

Information obtained from the data sources summarized above was used to create a cable industry economic model for the year 2002. Major categories of funds' flows analyzed included: cable system operations, cable system capital expenditures, cable operator financing activities, and cable network advertising. Each area was analyzed in detail to avoid double-counting.

Dollar flows from each of these categories were allocated to cable employee compensation, the purchase of goods and services from cable industry suppliers, or to special classifications such as payments to government (e.g., taxes, franchise fees, etc.). Payments to suppliers were then segmented into more than 40 categories based on the North American Industrial Classification System (NAICS) utilized by the U.S. Department of Commerce.

In any analysis of this type, certain categorization decisions must be made to accommodate the economic model utilized, and the level of detail available regarding the underlying data. Based on our review of the data and the characteristics of the impact estimation methodology, moderate variations in the classification of individual expenditures components would not have a meaningful impact on the overall economic impacts estimated.

Projection of Economic Impacts

The dollar flows identified above, as well as other information obtained from the sources noted, were used to estimate employment, compensation and related impacts at all three impact levels – direct (cable systems/MSOs), linked (suppliers) and indirect (re-spending effects).

Direct estimation. Economic impacts were estimated directly whenever possible. For example, cable operator employment and employee compensation were estimated based primarily on survey responses from MSOs and public company reports and presentations. Industry level data reported for 1999 and 2000 by the FCC and the Department of Commerce were used as a check on these sources. Similarly, linked supplier employment estimates were derived from Department of Commerce sector data, as well as (for the key program supplier category) surveys of key program suppliers.

Indirect impact estimation. Indirect impacts were estimated using sector level multipliers obtained from the Regional Input-Output Modeling System (known as RIMS II) developed by the Bureau of Economic Analysis at the U.S. Department of Commerce. RIMS II provides a comprehensive tool for quantifying the linkages between economic sectors and estimating aggregate economic impacts.

Multipliers utilized and resulting economic relationships were compared with prior Bortz Media economic impact analyses for consistency.

Comparison with Earlier Studies

As noted in Section II, Bortz Media principals developed a similar cable industry economic impact analysis for the year 1990 (as well as analyses for the years 1986 and 1988). The methodology and data sources used for the 2002 analysis are generally consistent with the approaches used in the prior studies. In particular, the basis for the development of direct impact assumptions and the quantification of direct and linked impacts is virtually identical to that employed in the prior studies.

With regard to indirect impacts, the estimation methodology (i.e., the use of multipliers to derive re-spending effects) is the same as that used in 1990 and prior years. However, the earlier studies used a different model describing the U.S. economy (i.e., the Conjoined Input/Output Forecasting and Simulation Economic Model, instead of RIMS II). Both models are based on Department of Commerce data, and have the same goal of quantifying the linkages between economic sectors. In addition, the multipliers obtained from both models are similar in the vast majority of instances.

As such, while some methodological differences exist between the 1990 and 2002 studies, we believe comparisons involving the overall estimates resulting from the two studies are both appropriate and instructive.

Limitations

The limitations associated with the economic impact components of this study are primarily attributable to reliance on economic relationships developed through a generic

input/output model of the national economy as a basis for indirect impact estimation. Industry sector designations, while highly disaggregated, do not precisely fit the cable industry. The dollar transactions and relationships between output, employment and income are averages representative of all businesses within a particular classification rather than solely those serving the cable industry.

We believe these limitations are minimized by our use of detailed "first round" expenditure data (i.e., direct expenditures by cable systems), verified through many and varied sources.