Paying the Bills, Measuring the Savings

Assessing the Financial Viability and Community Benefits of Municipally Owned Cable Television Enterprises

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John M. Kelly
Director of Economics and Research

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American Public Power Association

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PAYING THE BILLS, MEASURING THE SAVINGS

I. Introduction and Summary

This paper provides evidence that municipally owned and operated cable television enterprises are financially viable and provide large rate savings to their communities. The findings contradict allegations in *Costs, Benefits, and Long-Term Sustainability of Municipal Cable Television Overbuilds,* a 1998 paper authored by Ronald J. Rizzuto and Michael O. Wirth, that such enterprises are likely to be poor investments for cities.

The authors claim that analysis of financial histories of the cable enterprises in Glasgow (Kentucky), Paragould (Arkansas), and Negaunee (Michigan) "clearly indicates that [they] have been poor investments from a pure business perspective."[1] They are pessimistic about the fourth, Cedar Falls (Iowa). The authors contend that these enterprises "have not generated [or will not generate] sufficient cash flows to cover their out of pocket cash needs.… None … [is] currently sustainable over the long run."[2] However, by the incorrect criteria and analysis that Rizzuto and Wirth use, few new enterprises—public or private—would pass financial muster.

The authors further contend that the only reason these utilities have been able to remain solvent is because of various subsidies, personal and property tax transfers, or interest-free loans.

Rizzuto and Wirth's conclusions are not surprising since their paper was partially funded by Telecommunications, Inc. ("TCI"), the private, incumbent cable television provider in Cedar Falls at the time the city was creating its municipal cable enterprise.

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1 Ronald J. Rizzuto and Michael O. Wirth, *Costs, Benefits, and Long-Term Sustainability of Municipal Cable Television Overbuilds* (Denver, Colorado: GSA Press, 1998), p. 2.

2 *Ibid.,* p. 4.

Although Rizzuto and Wirth's paper was published seven years ago, critical review of it is timely and important. Formation of municipal cable enterprises is a major public policy issue; private broadband providers have been successful in having several states bar or place crippling limitations on the formation of such enterprises. The time that has elapsed since the paper was published provides a good perspective for checking the authors' predictions about the financial viability of the four municipal enterprises.

Most importantly, however, Rizzuto and Wirth's paper is often cited currently by those who oppose municipal entry in the cable television industry and related broadband industries. Their paper is widely quoted in reports of other organizations that oppose formation of municipal cable enterprises.[3]

Consequently, it is important to demonstrate the egregious analytical errors in the Rizzuto and Wirth paper, and explain how these errors not only undermine their conclusions but produce opposite results when corrected. Rizzuto and Wirth are wrong in their assumptions about the role and purpose of public enterprises, in general, and of municipal cable television enterprises, in particular. Their conclusions rest on the contention that municipal cable systems are not paying their bills, *i.e.,* the differences between the inflows and outflows of cash are negative and large. But they use the wrong concept of cash flow in their calculations and then define it incorrectly. They use unsubstantiated or biased assertions about subsidies and tax-free loans to explain away millions of dollars in economic benefits that communities receive in the form of lower cable rates.

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[3] *See, e.g.,* Jeffrey A. Eisenach, *Does Government Belong in the Telecom Business?* (Washington: Progress & Freedom Foundation, January 2001); Paul Guppy, *When Government Enters the Telecom Market: An Assessment of Tacoma's Click! Network* (Washington: Progress & Freedom Foundation, February 2002); Thomas Lenard, *Government Entry Into the Telecom Business: Are the Benefits Commensurate with the Costs?* (Washington: Progress & Freedom Foundation, February 2004); Beacon Hill Institute, *Cashing in on Cable: Warning Flags for Local Government* (Boston: Beacon Hill Institute at Suffolk University, 2001); Joseph L. Bast, *Municipally Owned Broadband Networks: A Critical Evaluation,* Revised Edition (Chicago: Heartland Institute, 2004); David G. Tuerck and John Barrett, *Municipal Broadband in Concord: An In-Depth Analysis* (Boston: Beacon Hill Institute at Suffolk University, 2004); and David P. McClure, Steven Titch, and Braden Cox, *et al., 'Not In The Public Interest—The Myth of Municipal Wi-Fi Networks;' Why Municipal Schemes to Provide Wi-Fi Broadband Services With Public Funds Are Ill-Advised* (Washington: New Millennium Research Council, 2005).

Rizzuto and Wirth's statement that municipal cable investments have been poor ones "because the majority of the benefits have … accrued to cable customers rather than as cash flow" betrays a complete lack of understanding of the economic and public purpose of public enterprises such as municipal cable television systems.[4] Public enterprises are non-profit entities, and delivering benefits to consumers in the form of lower rates rather than maximizing cash flows and profits is their very economic purpose.

Rizzuto and Wirth's calculations estimated total cash flows of negative $15 million for the cable systems during the years covered in their paper.[5] But the correct concept and definition of cash flow result in a positive amount of more than $333 thousand, and net economic benefits to the communities of more than $10 million.

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In regard to community rate savings, Rizzuto and Wirth's attempt to explain them away fails completely. Even after deducting various items that they contend should be subtracted from the savings, almost $10 million in savings remain. Only income taxes and tax-exempt financing are left to erase the benefits. Issues of fiscal federalism aside, the exemption from income taxes for municipal enterprises is largely irrelevant because municipal systems are non-profit and, necessarily, produce relatively little net income. Access to tax-exempt financing does not begin to explain the sizable rate differences between municipal and private cable providers. It explains only about one percentage point of the 20, 30, or 40 percentage points that private cable rates were above those of municipal systems.

Finally, Rizzuto and Wirth's gratuitous, ad hominem attack on the motives of municipal cable "decision makers," as they refer to them, provides conclusive evidence that their study is a partisan polemic against municipal enterprises rather than a serious analytical investigation of the financial performance and economic benefits of such enterprises. They contend that local decision-makers "are preoccupied with sustaining artificially low cable television rates," and "clearly … are willing to incur ongoing negative cash flows, higher debt levels, increased community taxes, additional subsidies, and/or reduced reinvestments in [cable] telecommunication technology in order to maintain this low-rate illusion."

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4 Rizzuto and Wirth, p. 30.

5 *Ibid.,* p. 8.

They make these unsubstantiated and untrue claims despite knowing that: feasibility studies were performed before the cable enterprises were created; citizens voted to form the cable system enterprises; the rates and financial records of the cable enterprises are open to examination by consumer-owners in the communities; and bonding and taxing matters are presented to voters.

This analysis addresses Rizzuto and Wirth's: mistaken assumptions about public enterprises; serious analytical errors in calculating cash flows; efforts to explain away consumer rate savings; and attacks on local public officials and cable managers. It ends with a brief conclusion.

It is important to note that all the corrected calculations in this analysis are based on data compiled by Rizzuto and Wirth and used in their paper, except for years subsequent to it. The latter data were obtained directly from the respective municipal utilities. It will be shown that, even accepting the data used by Rizzuto and Wirth at face value, their conclusions do not hold up under scrutiny.

II. Differences in the Purpose and Role of Non-Profit, Public Enterprises and For-Profit, Private Enterprises

Rizzuto and Wirth confound the purpose and role of not-for-profit, municipal enterprises, and the criteria for judging their economic success, with that of private, for-profit enterprises. They contend that the financial history of Glasgow, Paragould, and Negaunee cable television investments "clearly indicates that all three have been poor investments from a pure business perspective," and that the "overall rate of return across all three systems is infinitely negative." They suggest that the prospects for Cedar Falls are the same.[6]

Their contention that municipal cable investments have been poor ones "because the majority of the benefits have … accrued to cable customers rather than [gone to increase] cash flow" betrays a complete lack of understanding of what public enterprises are and their purpose. Public

[6] There were existing municipally owned and operated electric power systems in these communities: the *Electric Plant Board* in Glasgow; *Paragould City Light and Water*; the Negaunee *Electric Department*; and *Cedar Falls Utilities*.

enterprises are non-profit entities, and delivering benefits to consumers in the form of lower rates rather than maximizing cash flows and profits is their very economic purpose.

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Rizzuto and Wirth stumble upon the basic purpose of municipal cable enterprises—to have the benefits of municipal ownership "accrue to cable customers rather than as cash flow" for other purposes—but turn it on its head. The authors criticize these enterprises for succeeding in what they were created to do. More fundamentally, they are criticizing the basic legitimacy of local communities to form non-profit public enterprises when they are dissatisfied with the price and quality of cable service of private, monopoly providers.

As will be discussed, Rizzuto and Wirth primarily rely on an incorrect definition of cash flows to make their case that municipal investments in cable television have been poor ones. They also contend that the cable systems have not paid back original investments, and calculations of rates of return are infinitely negative.

The fact that the original investment has not been paid off is hardly surprising. To say that there is something unusual about this is analogous to saying that even though a homeowner has made payments on his or her 30-year mortgage in a timely manner during the first 15 years of its term, the fact that the mortgage is not paid off means the borrower is financially insolvent and never should have taken the mortgage out in the first place.

The allegation that the rates of return will be infinitely negative fails on two grounds. First, rates of return are indicators of profitability, and since municipal cable enterprises are "non-profit," it is essentially meaningless to hold them to this standard. Second, the measure of profitability Rizzuto and Wirth use in their calculation of rates of return is incorrect not only for public enterprises but for private enterprises as well.

The end result is that an analysis of the financial viability of non-profit municipal cable systems that employs conventional standards of profitability for private business as criteria, such as Rizzuto and Wirth do, will produce meaningless and biased results. In order to evaluate the financial viability and economic success of municipal cable enterprises, it is also necessary to understand their primary role.

One of the primary reasons public enterprises exist is that markets are not working to produce true competitive results—prices that reflect prudent costs, and good service responsive to consumer demands. A lack of effective competition for modern-day services deemed essential for a community's infrastructure has motivated hundreds of local communities to provide such services themselves. Rizzuto and Wirth effectively acknowledge these as factors in the decisions of the four municipalities to form cable systems. The citizens of Cedar Falls and Paragould were dissatisfied with the rates of the local provider, and those of Negaunee had "a long history of disagreements with the incumbent cable operator."[7]

Finally, the consumer savings from lower rates are an essential part of financial and economic analysis of municipal cable enterprises. These savings are analogous to the profits of private enterprises. Rizzuto and Wirth make a begrudging acknowledgement of such savings in the last section of their paper but give them short shrift. They are included as an afterthought rather than incorporated in the main body of their financial analyses. Rather than providing a balanced, reasoned analysis, Rizzuto and Wirth attempt to explain away the sizable consumer savings. (See discussion in Section V below.)

Rizzuto and Wirth's lack of understanding of the purpose and role of municipal cable systems is also reflected in the cash flow measure they choose to assess the financial viability and benefits of the four cable systems. Their erroneous measure of cash flow is discussed next.

III. Wrong Concept, Wrong Definition of Cash Flow

Rizzuto and Wirth contend that the "cash outflows of the four cable systems exceed their cash inflows." "These investments have been unsuccessful from a pure business viewpoint" because they "have not generated sufficient cash flow to cover their out-of-pocket cash needs."[8] The authors note that any business has to pay its bills, and conclude that the four municipal systems have not been able to pay their bills. But their analyses of the cable investments of the four municipalities rest on their unique definition of the financial concept of "cash flow."

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7 *Ibid.,* p. 27.

8 *Ibid.,* p. 3.

The financial concept of cash flow provides a meaningful indicator of the financial viability of both private and public enterprises. Indeed, businesses do have to pay their bills. But Rizzuto and Wirth use the wrong measure of cash flow to apply to public enterprises, and then they incorrectly define it. These errors are the primary reasons their calculations show the four municipal systems having negative cash flows.

There are numerous definitions of cash flow. Generally defined, it is the "amount of cash generated by operations or a specific project. The term sometimes refers to gross or total cash to be received, sometimes to net cash after payment of expenses."[9] This definition further notes that "the specific meaning must be determined from context" in which the term is used. For example, there are different types, measures, of cash flow such as "net cash flow," "operating cash flow," "free cash flow," "discounted cash flow," and others. Professor Robert Higgins notes that "[s]o many definitions of cash flow exist today that the term has almost lost meaning."[10] An example of this is that one financial analysis text uses the term "net cash flow" to refer to the sum of net income and non-cash expenses while another uses the term "operating cash flow" to refer to the same sum. Determining which cash flow measure is relevant to the question at hand demands, Higgins warns, "judgment and perspective."[11] Consequently, it is important that the measure of cash flow used answers the question being asked.

The cash flow measure—free cash flow—used by Rizzuto and Wirth lacks judgment and perspective, and, consequently, is not a good indicator of the financial viability of the municipal systems. The authors not only use the wrong measure of cash flow but make a gross error in the way they define it. Free cash flow, properly defined, "is the cash flow actually available for distribution to investors, after [a] company has made all investments in fixed assets and working capital necessary to sustain ongoing operations."[12] It is important to recognize that though this measure is a good indicator of the *value* of private, for-profit enterprises, it is not a reliable indicator of the *financial viability* of either private or

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9 Ralph Estes, *Dictionary of Accounting* (Cambridge, Massachusetts: The MIT Press, 1981), p. 23.

10 Robert C. Higgins, *Analysis for Financial Management,* Seventh Edition (New York: McGraw-Hill/Irwin, 2004), p. 18.

11 *Ibid.,* p. 249.

12 Eugene F. Brigham and Michael C. Ehrhardt, *Financial Management: Theory and Practice,* 11th Edition (Mason, Ohio: Thomson/South-Western, 2005), p. 106.

public enterprises. Though there are various ways to calculate it from financial statements, there are core elements that must be included. The conventional definition starts with the after-tax income of an enterprise, adds depreciation expense, and then subtracts capital expenditures and adjusts for changes in working capital.

Rizzuto and Wirth's definition of free cash flow ("FCF"), however, does not agree with conventional ones. They define FCF as cash inflows from cable operations minus operating expenses, interest and principal payments, and capital expenditures.[13] One problem is that their definition fails to include changes in working capital. This omission is unlikely to materially affect their results, and to simplify calculations, it is probably acceptable. In contrast, their omission of non-cash depreciation charges is a gross and inexcusable error. Depreciation charges significantly affect cash flow estimates, as even a cursory examination of almost any financial analysis text will show.[14]

The simple inclusion of the non-cash charges for depreciation significantly changes the directions and magnitudes of Rizzuto and Wirth's results. For the 14 years that Glasgow's and Paragould's cable systems were operating during the periods reviewed, the authors' calculations show sizable, negative cash flows for all years. However, when depreciation charges are properly accounted for, the cash flows change to positive or relatively small negative amounts for ten of the years. For example, Rizzuto and Wirth calculated a negative FCF of $272 thousand for Paragould for 1995, but the number becomes a positive $73 thousand when $345 thousand of depreciation charges are properly accounted for.

The omission of depreciation charges in the calculation of FCF not only produces gross errors in estimates, it undermines the credibility of the entire paper as well. But there is another serious problem. Free cash flow is *not* the appropriate measure by which to judge the financial viability of municipal cable systems. It is more appropriate as an indicator of the value of the

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13 Rizzuto and Wirth, p. 12.

14 *See, e.g.,* Brigham and Ehrhardt, *Financial Management: Theory and Practice;* Higgins, *Analysis for Financial Management;* Ezra Solomon and John J. Pringle, *An Introduction to Financial Management,* Second Edition (Glenview, Illinois: Scott, Foresman and Company, 1980); and Joseph Tham and Ignacio Vélez-Pareja, *Principles of Cash Flow Valuation, An Integrated Market-Based Approach* (London: Elsevier Academic Press, 2004).

investments of private, for-profit enterprises. But even here it is not an appropriate criterion to gauge the success of newly formed companies.

Another error in Rizzuto and Wirth's calculation of FCF is that it counts all of the major outflows of cash of the municipal cable systems (for operations, interest, principal, and capital expenditures) but not all of the inflows. For example, the capital-expenditure outflows are included, but the proceeds from bond issues and other borrowings are not, even though they variously noted such borrowings by the municipal systems.

These serious errors aside, FCF is not a good summary measure of the financial viability of municipal cable systems because it reflects the lumpiness of investments. Such unevenness requires putting investment expenditures in a broader context and longer run perspective to properly interpret free cash flows; Rizzuto and Wirth do neither. For example, their interpretation of the FCF for the four municipal systems is that negative results are necessarily bad. "Not necessarily" so, say Eugene Brigham and Michael Ehrhardt in their widely used financial management text. "It all depends on *why* the free cash flow was negative [emphasis added]."[15] They note that many high-powered companies have negative FCF because they are making large investments in operating assets. They point to Home Depot as an example of a successful private enterprise that has sometimes experienced negative FCF due to its rapid growth.

Rapid growth in capital expenditures is a natural part of any start-up enterprise, especially ones that are relatively capital intensive such as cable television. Consequently, the negative FCF numbers during the early years of operations of the four municipal cable systems are not at all surprising.

More generally, the use of FCF assumes that public enterprises such as municipal cable television systems are in business to produce large cash flows and maximize profits. Instead, they exist simply to produce services efficiently and sell them at prices that reflect actual costs. The measures of their success—the benefits to their customer-owners—are rate savings and responsive and reliable service. The rate savings are the difference between the cable rates consumers would pay absent their municipal cable system and the rates charged by the municipal system. As such, they serve as a proxy for the profits that investors in private enterprises enjoy.

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[15] Brigham and Ehrhardt, p. 108.

A far better, more transparent measure of whether the municipal cable television systems were financially viable is "net cash flow." It is the sum of net income after taxes plus non-cash depreciation charges. A more refined measure would account for changes in working capital, but these changes are not likely to materially affect the results and are not included here. Another reason for excluding them is that they were not included in Rizzuto and Wirth's analysis. Including them here would make the components of their analysis and this one less comparable, and the conclusions of each analysis more troublesome to evaluate.

Net cash flow estimates demonstrate that the four municipal cable systems produced revenues sufficient to cover all operating expenses in 21 of the 27 years of full operation. The six years they did not were mostly during the early years of operation. For the years covered in Rizzuto and Wirth's paper, Paragould and Negaunee had positive net cash flows of $943 thousand and $182 thousand, respectively. For the first five years of its actual operations, starting in 1990, Glasgow had negative cash flows, but during the next four years net cash flows were positive each year and totaled about $103 thousand.[16] As will be seen, the total of net cash flows for 2002 and 2003 more than offset the negative flow that occurred during the initial years of operation.

Rizzuto and Wirth's FCF estimates are juxtaposed in Table 1 below with net cash flow estimates and their components.

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[16] Although Rizzuto and Wirth say that Glasgow signed up its first cable customer in May 1989 and include that year in their analysis, they do not list any cable operating revenue for that year. So, as a practical matter, cable operations did not effectively start until 1990.

TABLE 1: Rizzuto and Wirth Cash Flow Estimates and Appropriate Adjustments
(dollars in thousands)

Municipal Cable TV Enterprise (period covered)	Rizzuto and Wirth Free-Cash Flow Estimates*	Non-Cash Depreciation Expenses	Net Income	Net Cash Flow, Net Income plus Non-Cash Depreciation Expense
Negaunee (1984–1996)	–$239	$315	–$133	$182
Paragould (1990–1996)	–4,257	1,701	–758	943
Glasgow (1989–1997)	–2,097	572	–1,029	–457
Glasgow (1994–1997)	–800	334	–231	103
Cedar Falls (1996–1997)	–5,188 **	501 **	–290 **	211 **

* Rizzuto and Wirth, page 8. Although the authors provided financial estimates for Cedar Falls' cable operations for 1995, actual operations did not start (first customer was not signed up) until the following year. Consequently, financial estimates for 1995 essentially reflect expenditures for construction and, therefore, are not included in the table.

** Estimated from partial year data.

Correcting Rizzuto and Wirth's cash flow estimates by excluding capital expenditures and including non-cash depreciation charges dramatically changes the estimates. The cash flow for the four utilities goes from a *negative* amount of almost $12 million to a *positive* amount of almost $3 million. More importantly, the relevant cash flow measure—net cash flow (net income plus depreciation)—is a positive $879 thousand for the four utilities.[17]

[17] Rizzuto and Wirth estimated a total negative cash flow of $14.9 million for the four utilities. The difference between this estimate and the one cited is $3.1 million for Cedar Falls. Since the cable enterprise was not actually operating in 1995, and had no customers, data for 1995 are not included here.

The relevant cash flows for all utilities change from negative to positive, except for Glasgow's where the negative amount falls almost three-fourths. Though Glasgow experienced a negative net cash flow for the period 1989–1997, a more thorough analysis reveals that the negative flows occurred during the first five years of actual operations. Then, for the 1994–1997 period net cash flow was positive in each year and totaled more than $103 thousand, a clear indication that the municipal cable system had become financially viable once it was up and running.

Rizzuto and Wirth's effort to analyze and make predications about cable operations in Cedar Falls is particularly inappropriate. They say that "a thorough economic analysis of [the municipal cable system] is not possible at this time [1998] because the entity has been in operation for only three years." But this does not deter them. After saying the system has been in operation only *three* years, they immediately contradict themselves, saying one of these "years was primarily a construction phase." So, in fact, the cable system was operating during only two of the three calendar years. For neither year did the data Rizzuto and Wirth relied on include full fiscal year results. The actual data covered the last ten months of 1996 and the first ten months of 1997.

Rizzuto and Wirth stop short of saying that the city's decision to create a municipal cable TV system was a poor investment, but they clearly insinuate that it was. They say that the cable system "has yet … to get into a break-even or positive cash flow situation," and that "a negative free cash flow situation indicates that [the cable system] has to continue to borrow more and more money every year in order to meet its capital expenditure, interest, and principal payments."

They contend that the cash flow of the cable system went from a negative $3.1 million in 1995 to negative $4.4 million in 1996. They calculate cash flows for 1995 despite the fact that, as they acknowledge, the utility was installing the "headend and fiber optic backbone" of its system that year, and the first customer was not connected to the system until late February 1996.[18] It should be obvious that because there were no revenues from customers their cash flow calculation for 1995 was meaningless as an indicator of the municipal cable system's financial viability. The cash flow numbers for 1995 merely represented initial capital expenditures of the borrowed funds and start-up operating costs, nothing else. And the cash

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[18] Rizzuto and Wirth, p. 35.

flow numbers for 1996 represent little more in terms of a criterion on which to judge present or future financial prospects of the cable system. Construction of the cable system continued that year with $4.3 million in expenditures. Net cash flow was a negative $108 thousand in 1996, not at all surprising for only about ten months of the first year of operations. This amount is drastically lower than Rizzuto and Wirth's $4.4 million estimate, which effectively turns out to be a measure of the cable system's capital expenditures that year. Rizzuto and Wirth show the latter being $4.3 million.

In 1997 the large initial capital expenditures ceased, and Rizzuto and Wirth's free cash flow dropped from the negative three- and four-million-dollar levels of the previous two years to a negative $783 thousand. The data Rizzuto and Wirth do provide indicate that net income was at least $318 thousand. They did not provide non-cash depreciation expense for 1997, but a depreciation number of $250 thousand for the previous year was provided. It would, at the time, have been reasonable to assume that depreciation charges for 1997 would have been significantly more because capital investment increased significantly. So adding the 1996 depreciation number to the estimated net income for 1997 provides a conservative estimate of net cash flow. The result is a positive cash flow estimate of $313 thousand instead of the negative $783 thousand claimed by Rizzuto and Wirth. For both years, 1996 and 1997, net cash flows were a positive $211 thousand, drastically different from Rizzuto and Wirth's negative $5.2 million estimate.

Net cash flow is not only a meaningful indicator of financial viability; it is also an indicator of whether municipal cable operations are able to cover financing costs of capital replacements, expansions, and upgrades. This is because the measure reflects charges for debt interest on investments. The only thing it lacks for the purpose at hand is that it does not reflect principal payments on debt. But accounting for these payments does not essentially change the results.

When $230 thousand in cumulative principal payments for Paragould are deducted, its cable operations still had a positive $713 thousand cash flow. For Negaunee, when $128 thousand in principal charges are deducted, its cable operations still had a $54 thousand cash flow. The $188 thousand in principal charges for Glasgow increase the negative flows for the period but must be put in perspective. The principal payments were made during the 1994–1997 period, so the adjusted net cash flow for the period was a negative $85 thousand dollars, or an average of about $21 thousand a year. Regardless of the negative flows, the results still demonstrated that the

cable operations were emerging from its start-up years of operation, and essentially becoming a self-sustaining enterprise. And, as will be seen, the community's savings in cable rates outweighed the negative cash flows during the initial years of operation by more than a million dollars.

Total principal payments for Paragould, Negaunee, and Glasgow were $546 thousand. Subtracting this amount from the conventional net cash flow estimate of $879 thousand for the four cable systems produces an adjusted cash flow of approximately $333 thousand.[19] This amount is the most relevant and stands in stark contrast to Rizzuto and Wirth's negative cash flow estimate of $15 million. It is likely that the $333 thousand is significantly lower than the actual cash flow amount because the non-cash depreciation estimate for Cedar Falls for 1997, discussed above, was quite conservative. In any event, the positive total amount demonstrates that the utilities were able to pay their bill, i.e., they were financially viable. The relatively low amount also demonstrates that the utilities were fulfilling their roles as non-profit enterprises, charging just enough to ensure covering all expenses and to exercise prudent financial management.

The financial results for recent years for the municipal cable systems demonstrate that Rizzuto and Wirth's pessimistic financial forecasts were wrong.

The financial results for recent years for the municipal cable systems demonstrate that Rizzuto and Wirth's pessimistic financial forecasts were wrong. The net cash flows of cable operations in Cedar Falls, Glasgow, and Paragould demonstrate that the bills are being paid, and handily so. For the years 2002 and 2003, net cash flows were $334 thousand and $250 thousand for Glasgow; $213 thousand and $439 thousand for Paragould; and $657 thousand and $2 million for Cedar Falls. The results for Cedar Falls include revenues and expenses for data services.

It is worth noting the net cash flow for Glasgow's municipal cable system for the 1998–2003 period because Rizzuto and Wirth were particularly pessimistic about the cable system's future financial viability. Based on information from financial statements for cable operations, net cash flows were positive each year and totaled more than $1 million.

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[19] Rizzuto and Wirth did not provide principal payment data for Cedar Falls for the first 20 months of actual operations covered in their analysis. But such payments could be expected to be relatively small and, in any event, likely more than offset by the underestimate of depreciation charges for Cedar Falls for 1997 estimated on page 13 above. Consequently, even without principal payment data for Cedar Falls, the $333 thousand amount is a conservative estimate of the net cash flow minus principal payments for the four municipal cable enterprises.

IV. Unrepresentative Time Periods and Questionable Adjustments

Time Periods of Analyses

Rizzuto and Wirth briefly acknowledge that broadband enterprises such as cable television "are long-term (sic) in nature" and "it is artificial to look at the returns over a mid-range time frame such as we have done."[20] Since it was artificial to do such an analysis because it was too soon, the obvious question is: Why did they go against their own advice? Conclusions drawn from such an analysis would also be artificial, and sufficient cause to reject them out of hand.

The authors' concept of "mid-range" spans from less than two years of operations for Cedar Falls to 12 years for Negaunee. In between are six years for Paragould and eight years for Glasgow. Characterizing the operations at Cedar Falls, with little more than one-and-a-half years of operation, as "mid-range" is blatantly untenable, at best, and doing so for the other cable systems is only slightly less so. All the systems were created with the expectation of being ongoing enterprises.

Finally, Rizzuto and Wirth are inconsistent to the point of contradiction in their characterization of the time horizons covered in their analysis. They say it covers a mid-range period but at the same time imply it is short term. Then, in another section of the report they say their analysis focuses on "three long-time municipal" investments (Glasgow, Paragould, and Negaunee).[21]

In the last analysis, the time periods covered in their paper were, except for Negaunee, largely the start-up years of operations. They covered an initial, short-run period, during which enterprises make relatively large capital expenditures and incur other start-up expenses. The financial results during such a period should not be confused with the financial results of an up-and-running enterprise, as Brigham and Ehrhardt suggest.[22]

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[20] *Ibid.,* p. 3.

[21] *Ibid.,* p. 2.

[22] Brigham and Ehrhardt, p. 108.

Deus ex Machina

In ancient Greek and Roman plays a large artificial prop, usually the image of a deity, was brought on stage by machinery to intervene in the action when the plot needed arbitrary redirecting. Thus, "deus ex machina" has come to stand for any unconvincing character, event, or point artificially introduced in a story or argument.

Rizzuto and Wirth introduce special items in their explanations of the financial viability of three of the cable systems. In the case of Glasgow, they say that the financial data for 1995–1997 "are somewhat controversial" because a Tennessee Valley Authority ("TVA") study determined that Glasgow's cable division should pay a "greater portion of joint costs" of facilities it and the municipality's electric division use. Rizzuto and Wirth note that the electric division "disagreed with the study … but agreed to a 10-year phase in of the costs allocated to the cable division."

Despite this information that such costs are to be spread over 10 years and the inherent accounting and economic logic of spreading the depreciation charges over time, Rizzuto and Wirth—by their own admission—"arbitrarily" allocate more than $500 thousand, in roughly equal installments, over the three-year period 1995–1997. There is no explanation why they did so. Even if the questionable allocation by TVA were correct, any allocation to the 1995–1997 period should, ideally, reflect economic depreciation charges for the life of the joint facilities allocated to the cable division. And at a minimum the charges for the 1995–1997 period should reflect the depreciation charges over the 10-year, phase-in period agreed to by Glasgow and TVA. Shoving the charges into this three-year period severely understates cash flow amounts for these years.

More fundamentally, Rizzuto and Wirth's acceptance and frequent reliance on TVA's determination of how joint costs should be allocated is arbitrary and betrays the superficial and biased nature of their analysis. The authors do not address the legitimate claims by the Glasgow municipal utility (which provides electric and other services) that a greater portion of the joint costs should not be allocated to the cable division. By definition, joint costs (sometimes referred to as common or overhead costs) are costs that benefit two or more products or services and by their very nature cannot be allocated in any meaningful economic way. A decision not to produce or supply one of the products or services benefiting from a joint facility will not eliminate the need, *i.e.,* the cost, for that facility. It is needed whether one, two, or more products or services benefit from it; thus, the term "joint cost."

The relevant economic costs for business decisions are the incremental costs of decisions, and this is what the Glasgow municipal utility correctly focused on when assigning costs between its electric and cable divisions. Glasgow's electric power utility needed broadband technology to enhance the way it delivered and sold electric power by connecting all substations, switches, capacitor banks, fault sensors, and electric meters. In that way it could have a ubiquitous, efficient network that could be managed in an organic fashion. Even without cable television or any other broadband service, it still was going to upgrade the communications capability of its distribution network to enhance its reliability and efficiency. This upgrade involved significant stand-alone costs regardless of other community services that might be added to it and benefit from it. Rizzuto and Wirth essentially acknowledged these facts but chose to ignore them in their discussion of TVA cost allocations.

The relevant economic costs that legitimately should be assigned to, and require a collection from, cable operations are the incremental costs of a more robust network than would otherwise have been required. From the outset, the municipal utility calculated how much the cable operation should reimburse the electric operation for its use of the network. This amount was equal to the cost of amortizing the additional investment in the more robust network compared to the basic network it would have otherwise built. For several years the Glasgow utility attempted to explain these basic economic points to TVA and convince it that their cost allocations were reasonable, but eventually decided not to devote more resources to the effort.

In regard to Paragould, Rizzuto and Wirth say that the municipal cable system covered its cash obligations during the 1990–1996 period, but did so because of subsidies and will not be able to maintain relatively low rates in the long run "unless [the municipal utility] is willing to permanently subsidize its cable operations."[23] To support these claims, the authors point to a bond issue that was backed by a suspended city tax on personal and real property, and the use of tax-exempt financing.

In 1989 the citizens in Paragould voted to approve a $3.2 million bond issue to finance construction of its municipal cable TV system. Part of the referendum to approve the bonds—*i.e.,* part of what the citizens voted to approve, as Rizzuto and Wirth acknowledge—was a 6.5 mill suspended tax on all personal and real property to back the bonds. It is one thing for Rizzuto and Wirth to point to these payments as an explanation of lower

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[23] Rizzuto and Wirth, p. 22.

rates during the four-year period that they were collected, but it is quite another to exclude these payments from the cash flow of the utility and use the resulting numbers as evidence to suggest that utility operations were not covering their expenses, as the authors do.

It is worth noting that even when these tax revenues of about $990 thousand are excluded from the definition of net cash flows, the municipal system still essentially breaks even. It had a cumulative negative cash flow of about $48 thousand or an average of about $6,800 per year for the 1990–1996 period.

Rizzuto and Wirth chose to view these tax payments as supporting ongoing operating expenses, but the payments could just as easily be viewed as taxes that were used to self-fund rather than borrow for initial capital investments. Given that the periods covered by their reviews of the individual cable systems were mostly start-up years of operation, the latter perspective is quite reasonable. But the authors made no mention of this alternative view. It is worth noting that tax transfers ceased after 1997, and, therefore, were no longer relevant and should not have played a part in Rizzuto and Wirth's forecasts of future financial viability.

In their story about Negaunee, Rizzuto and Wirth outdo themselves in introducing unconvincing events to make the case that Negaunee was not paying its bills. They have to introduce arbitrary speculations about cable system upgrades because even their incorrect measure of cash flow results in positive flows in 12 of the system's 14 years of actual operation. The authors explain away the cable system's financial viability by assuming a "technology gap." They do not just introduce the notion as a qualitative speculation; they present it as a given, and then propose amounts that Negaunee will have to spend to upgrade its system based on what they think—rather than on what local citizens want or what the utility's managers believe—should be done.

Rizzuto and Wirth say that to estimate the long-term return on Negaunee's cable investment, "it is critical this technology gap be plugged." It just so happens that the almost $700 thousand they say Negaunee will need produces results that allow them to conclude that the city's investment in a municipal cable system has been a poor one.

V. Attempts to Explain Away Cable Rate Savings

Rizzuto and Wirth eventually acknowledge, although begrudgingly, the importance of rate savings in calculating the economic benefits to communities with municipal cable television systems, but quickly attempt to explain them away. They say that one of the objectives of local communities in forming their own cable system "is to inject competition into the local cable television marketplace." While this characterization is correct, it is euphemistic because it downplays the fact that the communities believed the rates charged by incumbent providers were excessive. Negaunee, for example, experienced "a long history of disagreements with [its] incumbent cable operator before forming a municipal system."[24]

The authors say "their analysis would not be complete without considering the impact that … investments have had on local cable television rates."[25] But they downplay this fact, saying that "*it is possible to argue* that to fully measure" the cost and benefits of municipal cable systems, "*public* costs and benefits" have to be considered [emphases added]. The public benefits in the form of consumer rate savings are not open to argument but are an essential part of any analysis of the benefits of public enterprises.

For the four communities the savings total almost $10 million with Rizzuto and Wirth's adjustments, and almost $13 million without them.

Downplaying the dissatisfaction with rates and the central importance of public benefits to consumers does not erase the sizable rate savings that accrued to consumers in Glasgow, Paragould, Negaunee, and Cedar Falls during the periods covered by Rizzuto and Wirth's analysis. Even after reducing the amounts of the rate savings for offsetting items, as Rizzuto and Wirth claim should be done, the cumulative community savings still range from $1.8 million to $3.7 million. For the four communities the savings total almost $10 million with Rizzuto and Wirth's adjustments, and almost $13 million without them.

The cumulative savings for the cable systems are presented in Table 2 below with and without adjustments.

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[24] *Ibid.,* p. 27.

[25] *Ibid.,* p. 41.

TABLE 2: Estimates of Cumulative Community Cable Rate Savings

(thousands of dollars)

Municipal Cable System	Without Rizzuto and Wirth Adjustments	With Rizzuto and Wirth Adjustments *
Glasgow (1989–1997)	$1,938	$1,794
Paragould (1991–1996)	5,603	3,678
Negaunee (1985–1996)	2,438	1,887
Cedar Falls (1996–1997)	2,938	2,504

* Include deductions Rizzuto and Wirth made for revenue loss from franchise taxes, capitalized interest, tax assessments, and imputed interest. Estimates taken and calculated from pp. 48–56 of Rizzuto and Wirth.

Rizzuto and Wirth calculated annual community rate savings by subtracting the average revenue per customer for each municipal system from the average cable revenue per customer in the region it operated, and then multiplied the difference by the average number of cable customers in each community. Given the errors in Rizzuto and Wirth's analyses of cash flows and other demonstrated biases in their report, it is likely that their savings estimates fall into the lower range of such estimates.

For example, all or part of the franchise fees a community forgoes from a private cable provider is likely to be offset by payments-in-lieu-of-taxes by the municipal cable system to the general city fund. For example, in 2003 Glasgow's cable enterprise paid about $97 thousand, almost four percent of its cable operating revenues, in taxes. Rizzuto and Wirth's savings estimates fail to consider that such payments may have been made during the period covered by their analysis.

In regard to Paragould, they treat local personal and property tax payments that helped fund the cable system in its very early years as supporting ongoing operating expenses, and, thus, lowering rates. However, as noted, from a broader analytical perspective these tax transfers could just as easily be viewed as taxes that were used to self-fund rather than borrow for initial capital investments. Given that the period covered by Rizzuto and Wirth was the start-up years of its operation, the latter view would seem to be more reasonable.

These problems aside, Rizzuto and Wirth's estimates of consumer savings are still informative because they illustrate the magnitudes of the savings in each community. They are useful because they provide benchmark numbers, constructed by Rizzuto and Wirth themselves, which have to be accounted for—explained away—in order for the authors' general proposition that the municipal cable operations have been poor investments to be true.

It is also revealing to look at the community rate savings on a relative basis: the approximate amount municipal cable customers paid for service versus the amount they likely would have paid. The data Rizzuto and Wirth provide for Glasgow are a case in point.

TABLE 3: Estimated Dollar and Percent Differences in Average Rates—Glasgow Averages v. Regional Averages[26]

Year	Regional Average Annual Basic + Pay + Install Revenue Per Average Subscriber	Glasgow Average Annual Revenue Per Average Subscriber	Dollar Difference Between Regional Average and Glasgow Average Per Subscriber	Percent Regional Average Above Glasgow Average Savings
1989	$225.84	$179.93	$45.91	26%
1990	241.37	210.07	31.30	15
1991	256.94	238.45	18.49	8
1992	268.54	234.64	33.90	15
1993	275.30	244.26	31.04	13
1994	286.86	258.21	28.65	11
1995	302.51	256.58	45.93	18
1996	323.28	250.33	72.95	29
1997	347.65	250.33	97.32	39

Several comparisons stand out: the $46 difference in 1989 fell to $18 two years later but then increased in every year but two from 1991 to 1997, reaching its peak of $97 in 1997. Less obvious is the percentage amount that average regional cable rates were above Glasgow's. In 1989, it was more than

[26] *Ibid.,* p. 46. All data, except calculated percent differences, are taken from Rizzuto and Wirth.

26 percent, and then fell to about eight percent in 1991. It then rose and stayed in an 11–15 percent range for a few years before increasing significantly, to 18 percent in 1995, 29 percent in 1996, and 39 percent in 1997. In attempting to explain away the sizable, absolute dollar savings, Rizzuto and Wirth are at the same time attempting to explain away 20, 30, and 40 percent rate differentials—a difficult task, indeed.

The major ploy Rizzuto and Wirth use to explain away the consumer savings is their calculations of negative cash flows. As demonstrated, the negative numbers are the result of using an incorrect concept and definition of cash flow. The authors subtract their erroneous negative cash flow estimates from the community rate savings, and the benefits disappear. In fact, total benefits—utility cash flows plus consumer savings—are done away with. But because Rizzuto and Wirth's negative cash flow estimates are bogus, their use of them to erase consumer savings is also bogus. Absent their miscalculation of cash flows, Rizzuto and Wirth are still left with at least $10 million of benefits to account for or explain away.

Their last resort is to allege subsidies. The authors claim that the consumer rate savings "are an illusion because … the municipal cable systems are not financially self-sustaining." The systems "have had to subsidize operating expenses and capital expenditures, provide interest free loans, and levy taxes in order to keep cable rates low."[27] Absent these factors, "their tax-free status and their access to lower cost of capital, none of [the four cable] enterprises could be sustained over the long run in a competitive market place."[28]

Rizzuto and Wirth never define what a subsidy is nor explain why the items they mention fall into that category. Nor are complete or systematic dollar estimates provided. Consequently, the alleged subsidies cannot be easily quantified to find out what part they might actually play in explaining the rate difference between private and municipal cable providers.

As noted, even after the alleged tax subsidies for interest-free loans, local tax transfers, and other items identified by Rizzuto and Wirth are deducted from the community rate savings, almost $10 million remain. Consequently, only two alleged subsidies are left for them to make their case: income taxes and tax-exempt financing.

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[27] *Ibid.,* p. 5.

[28] *Ibid.,* p. 3.

In regard to income taxes, Rizzuto and Wirth turn the issue upside down. Municipal cable television enterprises do not pay income taxes because the basis of such taxes is—as the tax defines itself—income, or profits, and municipal cable enterprises are non-profit. So it makes little sense to expect a non-profit enterprise to pay taxes on profits. At its heart, Rizzuto and Wirth's complaint about income taxes is a complaint against municipal cable systems *being* what they *are*—non-profit entities.

Even if income taxes were levied on the relatively small net incomes of such enterprises, as a practical matter, it would have little or virtually no impact on rates. The net incomes of municipal enterprise are kept low because they are non-profit, and it is contrary to their purpose to charge prices that generate large net incomes. For example, for 2003 the net income of Glasgow was only $24 thousand on over $2.5 million in cable revenues. A 30 percent income tax would have resulted in $7,200 in payments, or a less than three-tenths-of-one-percent increase in rates if the tax were passed through to customers.

As for tax-exempt financing, Rizzuto and Wirth suggest that it is an important factor that allows municipal cable television systems to keep its cable rates significantly below those of private providers. A simple look at the relevant numbers for Paragould indicates that the municipal cable enterprises' access to tax-exempt financing plays hardly any role in explaining the sizable difference between its rates and those of private providers. Based on Rizzuto and Wirth's calculations, in 1996 the average annual revenue per customer for the Paragould system was $276.65 compared to $356.78 for the region. The regional average was 29 percent higher, and is likely much more because the estimate for Paragould includes the questionable $38.45 of imputed personal and real property tax expenses that are probably better viewed as a capital expenditure rather than an expense.

In any event, the estimated rate difference of 29 percent is sizable and cannot be explained away by the interest-rate benefit of tax-exempt financing. For example, for the year 2003 the cable rates for the Paragould municipal system would have had to increase about one percent if its cable system debt were financed with taxable instead of tax-exempt bonds. Though the percentage point amount in particular cases may be more or less than one percentage point, it is the relative magnitude that is important. It demonstrates that access to tax-exempt financing accounts for only a very small part of the rate difference between private and municipally owned cable television systems.

Consequently, even after the rate savings are reduced to reflect items Rizzuto and Wirth say should be deducted, the savings remain large, and income taxes and tax-exempt financing are essentially irrelevant or do not begin to chip away at the savings.

The main reason for the sizable community savings is that the municipally owned cable enterprises are non-profit. Others include the fact that most municipal cable enterprises can share some capital facilities with municipal electric power systems, thereby leveraging the use of common facilities and lowering the cost of providing cable service. Rizzuto and Wirth acknowledge this, though characterize this leveraging—economies of scope—disparagingly.[29] Management efficiency is also a factor that lowers costs because the proximity of utility managers to their consumer-owners makes them more accountable. Moreover, there is a strong motivation to manage and operate these systems efficiently because the employees who operate and manage these cable enterprises live in the communities. Finally, the enterprises are in a position to provide high-level customer service and be responsive to customer demands because they are locally owned, controlled, and accountable.

VI. The End of Pretext: Gratuitous Attacks

The egregious analytical errors along with biased interpretations of various items provide convincing evidence that the Rizzuto and Wirth paper is essentially an advocacy document for private broadband providers. Conclusive evidence of this is provided by their gratuitous, ad hominem attacks on the motives of municipal cable "decision makers," as they refer to them. The authors do not identify the decision-makers, but presumably they would have to include, or require the corroboration of, municipal cable system managers and some elected officials.

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The authors contend that local decision-makers involved with cable television "are preoccupied with sustaining artificially low cable television rates. Clearly, they are willing to incur ongoing negative cash flows, higher debt levels, increased community taxes, additional subsidies, and/or reduced

[29] *Ibid.,* pp. 11, 12.

reinvestments in [cable] telecommunication technology in order to maintain this low-rate illusion." They charge that the utilities' managers succumbed to "the temptation to create the illusion of 'large' rate savings."[30]

Rizzuto and Wirth make these unsubstantiated and untrue claims knowing that: feasibility studies were performed before the cable enterprises were created; citizens voted to form the cable system enterprises; rates and financial records of the cable enterprises are open to examination by their consumer-owners; and bonding or taxing matters are presented to voters.

VII. Conclusions

Based on data provided by Rizzuto and Wirth, the four municipally owned cable enterprises that the authors reviewed were financially viable enterprises from a business perspective. Three were "generat[ing] sufficient cash flow[s] to cover" all their ongoing business expenses, and the fourth was on the cusp of doing so. The negative $15 million cash flow estimate for the utilities resulted from the authors' using the wrong measure of cash flow and then compounding this mistake with an egregious error in its calculation. In addition, they incorrectly include periods in their analysis in which the utilities were constructing and not yet operating their cable systems, or the systems otherwise were not fully operational. In contrast, the correct measure of cash flow, after accounting for principal payments, results in a positive amount of more than $333 thousand.

Rizzuto and Wirth's attempt to hold municipal cable enterprise to private industry's profitability standard makes no sense. It betrays the authors' lack of understanding of the purpose and role of public enterprises—primarily that these enterprises are non-profit and by definition do not pursue high profits or cash flows. Municipal cable enterprises provide benefits in the form of rate savings.

Rizzuto and Wirth's own data indicate that such savings were almost $10 million. They attempted to explain away the savings by subtracting incorrect estimates of cash flow, which resulted in a negative $3 million. But when the relevant and properly defined measure, net cash flow, is used, the economic benefits enjoyed by the communities were more than $10.3 million.

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[30] *Ibid.,* pp. 44–45.

Rizzuto and Wirth's largely unqualified focus on the early years of operation of the four municipally owned cable enterprises biased their analysis against finding favorable financial results. And their uses of an incorrect measure of cash flow and the wrong definition essentially made their conclusions forgone. Recent data on the financial performance of the municipal cable enterprises demonstrate that they continue to be viable operations, and handily so.

Finally, Rizzuto and Wirth's gratuitous, ad hominem attack on the motives of municipal cable "decision makers" provides conclusive evidence that their paper is a partisan polemic against municipally owned cable enterprises rather than a serious analytical investigation of the financial viability and economic benefits of such enterprises.

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