ARAnet

From the *ARAnet* On-Line Library of Public Radio Research

Programming Economics

by David Giovannoni, Thomas J. Thomas, Theresa R. Clifford, John F. Berky, and Richard H. Madden

(38 pages)

Originally published as:

Giovannoni, David, Thomas, Thomas J., Clifford, Theresa R., Berky, John F., and Madden, Richard H. Programming Economics. Washington, DC: Corporation for Public Broadcasting, 1989.

CORPORATION
FOR PUBLIC
BROADCASTING

Programming Economics

David Giovannoni
Thomas J. Thomas
Theresa R. Clifford

with
John F. Berky
Richard H. Madden

JUNE 1989

ISBN 0-89776-116-2

CONTENTS

FOREWORD

In the last few years the phrase "public radio programming economics" has evolved from an oxymoron to an idea strongly influencing programming policy and practice. This book's first chapter explores this transformation from an institutional perspective; a more personal perspective illustrates the central roles played by professionals at these institutions.

In 1985, Thomas & Clifford's ground-breaking *Public Radio Program Marketplace* study found that public radio's national programming marketplace was larger, more competitive, and less efficient than many had assumed. Based on this work, Tom Thomas introduced the notion of "audience budgeting" to NPR's Audience Building Task Force in 1986. This idea of budgeting "dollars per listener" became a central theme of the Task Force's *Report*.

In this spirit NPR President Doug Bennet asked me to help assess the costs and returns of existing and proposed NPR programming to stations. Using NPR's national audience estimates, we advanced Thomas & Clifford's analysis of program expenditures with our own assessment of cost per listener and audience returns. But we still did not have the data to estimate what programming was worth to stations in dollars and cents.

Serendipity struck in 1987 when I realized that the AUDIENCE 88 database forged the missing links between programming, listeners, and listener support — relationships necessary to compute what programming was worth to listeners and stations. After reviewing NPR's and Thomas & Clifford's works, I formalized a simple "programming economics" system that stations and producers might use to compare the merits of programming options. With the assistance of Thomas & Clifford, the encouragement of Doug Bennet, and the editing of JJ Yore, I wrote six *Radio Intelligence* columns for CURRENT that put these ideas together.

At that time George Bailey of Walrus Research and John Berky of Connecticut Public Radio saw direct management uses for such information and undertook the first full-scale station analysis. Completed in 1988, this analysis was followed by a second study done with Max Wycisk as part of KCFR's "Denver Project." Concurrently, CPB's Rick Madden was working through the complexities of awarding national programming production grants to producers. He too seized upon the ideas published in CURRENT and set to work applying them to assess the performance of — and potentials for — the programming he was funding. Updated versions of his and Dr. Bailey's work are presented in the last chapters of this book.

Programming economics might never have evolved without the foresight and commitment of two other individuals at CPB. While directing the Office of Policy Development and Planning, Ric Grefé commissioned the *Public Radio Program Marketplace* study, AUDIENCE 88, and the *Radio Intelligence* series. Ted Coltman's guidance of these endeavors continues today through the funding of this book, which puts into one place the contributions and current thinking of all of these pragmatic and forward-looking public broadcasters.

David Giovannoni

Derwood, MD
April 1989

1.
INTRODUCTION

During the last decade public radio's sources of income have shifted significantly. While the norm used to be relatively stable sources of institutional support based on public radio as a "public good," it is moving rapidly toward more volatile private sector support based on "performance" criteria. In this changing environment stations are coming to view programming options as investment options.

Public radio has undergone tremendous evolutionary change in the last ten years. In spring 1979 there was little awareness and sparse acceptance among public broadcasters of Arbitron's audience measurements. *Morning Edition* was still six months away, and at the Public Radio Conference in Washington, DC, public broadcasters heatedly debated the wisdom of news programming so early in the morning. National Public Radio (NPR) membership cost only $100; in fact, all programming available on the new satellite interconnection system was essentially free.

Much has changed in the last ten years.

Although the changes have affected public radio at all levels, they have had their biggest impact on stations. The economics of operating a station have shifted from the budgeting of overall expenses to the budgeting of costs and incomes directly tied to individual programming decisions.

Drastic as these changes have been, they continue to evolve today. A public broadcaster's ability to manage this shifting business equation is becoming an essential skill.

Economic Evolution

When the public radio system was established, most station income came from public sector support of public radio as a "public good." Stations' revenues were determined by state legislators, university administrators, foundation grant makers, and Community Service Grants from the Corporation for Public Broadcasting (CPB).

In this environment, a station's business equation was principally a matter of resource allocation how best to invest a fixed sum of revenue across a year's worth of activity. Toward this end, station managers concentrated on realizing the station's mission and making sure the allocated funding did not run out before the fiscal year did.

Further, when it came to choosing among competing programs, the business equation often missed many cost factors. Most non-local programming was extensively subsidized before it entered the programming marketplace. Acquisition fees, if imposed at all, were usually nominal.

In many ways, this heavily subsidized economy is still the norm. In FY 1987, 60 percent of public radio's income was derived from government, universities, and foundations. Most programming moving over the satellite system still enjoys substantial support from entities other than the stations that use it.

Yet in other ways the economics of public radio are evolving rapidly. Community licensees, unsupported by parent institutions, are becoming more prevalent. Private sector support keyed to "performance" — typically use of a station's service by listeners — is growing as a share of station income.

This evolution took a major leap in 1987. In that year CPB restructured its national programming investment, redirecting to stations millions of dollars previously spent to subsidize NPR's programming. In turn, NPR — one of public radio's largest programming suppliers — began charging its member stations for a majority of its programming costs.

DOING PROGRAM ECONOMICS

Programming economics establishes a theoretical framework for considering the relationships among programming options, finances, audience size, and audience service. The shifting financial and programming environment has been obliging public broadcasters to think about these relationships on their own; this book shows how they are connected in a simple programming economics system.

All public radio professionals can benefit from understanding these connections.

Theoretical frameworks are useless unless they relate to the real world. The applied work done with programming economics to date shows the system to be well grounded in reality. In fact, programming economics provides a very practical analytical method well suited to aiding management and programming decisions faced by station-based public broadcasters.

Most stations will not be able to undertake a full programming economics analysis themselves. Although most can work through the cost side of the equations, ascertaining all income variables requires sophisticated surveying techniques and analysis, usually beyond the abilities of most station professionals. However, this technical work can be purchased readily from firms specializing in this service.

Those considering this analysis for their station should realize that programming economics

- compels station management to go through disciplined cost accounting exercises;
- demands careful and specialized research, and
- requires the mathematical marriage of the appropriate information.

In short, a station-specific programming analysis requires a high degree of participation by management, the involvement of specialized research professionals, and a great deal of interaction between the two. It will cost the station at least $10,000, and for maximum effectiveness it should be done in concert with other endeavors undertaken by management and research professionals.

Today, private sector support continues to grow in importance, giving stations even greater control over their programming funds. The stakes for wisely investing these funds are rising ever higher. Balanced station budgets increasingly depend on the economics of programming decisions.

The Programming Investment

Public radio's new and evolving financial environment encourages stations to see the money spent on programming production and acquisition as an investment that must produce a return.

Public broadcasters focus primarily on three types of return: the quality and importance of the programming, the size and satisfaction of the audience, and the dollars generated from listener support and underwriting.

These considerations influence how public broadcasters think about programming options. For instance, in 1989 most would agree that programming should be of significance, that it should serve a significant number of listeners, and that it must be significant enough in listeners' lives for them to support it voluntarily. Consensus on these issues would not have been possible in the economic environment of a decade ago.

More than ever, public broadcasters recognize that they are in the public service *business*. Their questions concerning programming options reflect this:

- Will the audience be large enough, and satisfied enough, to support the programming?
- What is the programming's underwriting potential?
- Will the programming pay for itself, or must other resources be sought to support it?
- Can the programming produce a surplus that makes other programming possible?
- Are there reasons to continue subsidizing programming that listeners do not support?

Programming economics informs these and other questions related to programming as an investment.

Linkages

Public radio's underlying economics are becoming highly integrated. Programming economics links these discrete parts and makes their relationships explicit. It reveals how these relationships interact, thereby putting a powerful decision-making tool in the hands of public broadcasters.

Public broadcasters are familiar with the discrete components built into the programming economics system. The ideas of expenditure (cost), benefit (income), and return (profit or loss) are widely understood. The notions of audience size, audience satisfaction, and public service are also widely understood, although not with the same mathematical precision as income and expense accounting.

The programming economics system connects these seemingly discrete areas of public radio endeavor in some rather surprising ways. In doing so it informs some longstanding debates.

For example, in the debate about whether attention to audience necessarily precludes attention to mission, the tension revolves around the assumption that many types of high-quality programming will not serve an audience of significant size.

Programming economics forges mathematical links between audience size, the significance of the programming to its listeners, and public radio's public service mission. It shows that listener income is a direct result of both audience size and programming significance, and that the listener income generated by any programming is a direct reflection of the service the programming is providing to listeners. These connections inextricably link public service to both audience size and programming significance.

Other linkages abound. Programming economics connects programming decisions with the range of consequences — public service as well as financial — that result. For instance, it allows broadcasters to transcend the economics of filling air time by evaluating the cost of serving a listener, the income derived from that service, and the profit or loss resulting from that programming decision. Programming economics also provides more accurate tools with which to make these evaluations; no longer must public broadcasters depend on the misinformation of pledge tracking.

Also of great interest are the presumed linkages that programming economics *disconnects*. For instance, some assume that programming that demands extensive local resources (and attention) is of greater importance to the audience than inexpensive national services available from the satellite.

Programming economics decouples program cost from importance to listeners to show the true relationships. While it is often true that premium quality demands a premium price, it is also true that some programming that is clearly important to listeners is among the least expensive to acquire.

In this way programming economics helps public broadcasters at stations evaluate in both public service and financial terms what programming is worth paying a premium for, and what programming isn't worth the tape it's recorded on.

The programming economics system has been developed from a station's perspective, but the links it forges carry through to national decisions, such as the pricing of nationally distributed programming by producers. The amount producers can charge stations for programming is linked to the programming's return to stations.

A Decision Tool

Programming economics is no grand unified theory of public broadcasting. However, by tying many seemingly disparate areas of endeavor into a unified exploration system, it becomes a powerful tool for making decisions in public radio's rapidly evolving financial environment.

Those who apply the programming economics system presented in these pages should keep two things in mind.

First, programming economics is a decision tool, not an accounting system. Elements of the system that would operate one way under strict accounting practice are modified to operate in a fashion that maximizes their decision-making power. Users of the system should not expect to use it to "balance their books."

Second, programming economics is a tool in the hands of decision makers. Like audience research, professional experience, and gut feeling, programming economics should only inform decisions; it cannot make them on its own, and it should not be applied in a vacuum.

2.
PUBLIC SERVICE

Although many programming economics variables are reported in dollars and cents, the system is not designed to evaluate programming only from a financial perspective. Public service is the bedrock upon which the programming economics system rests. Public service is the product of the amount of programming heard by listeners (consumption) and the value they place on it (customer satisfaction). By definition, consumption and satisfaction produce public service; just as directly, consumption and satisfaction also produce listener income. Thus, the amount of money a program or format raises from listeners is a direct indication of its public service.

Most public radio stations perform their public service missions in a variety of ways. Some are broadly focused on general services to their communities; others are more narrowly focused on specific services to their licensees.

Within this diversity exists one aspect of mission shared by virtually every public station — namely, the commitment to reach people with quality programming of importance. Public radio provides a direct public service only when it serves listeners with programming that is important to them. If nobody listens, or if people listen but don't value the programming, no direct public service is provided. Similarly, the more people listen and the more they value the programming, the more public service is provided.

Use of programming by listeners and listener satisfaction with what they hear are the keys to evaluating the public service of any program or format.

Perhaps the most important characteristic of the programming economics system is its recognition of public radio as both a public service *and* a financial enterprise. Programming economics melds the business of public service with the public service of radio programming.

In this sense a public station is not unlike any retailer or service provider, whether for profit or not for profit. Each can evaluate its public service by the *consumption* of the service and the *satisfaction* of its customers.

Measuring Programming Consumption

Radio audience measurement is founded on two basic statistics: *cume* reports how many different people listen to a program service over time, and *average quarter-hour* (AQH) reports the average number of persons listening at a given time.

If we think of public radio as a neighborhood bar to which people come for recreation and information, cume tells us how many different people come in for a drink, and AQH tells us how many people are drinking at this very moment.

But barkeepers use a third statistic that broadcasters don't — the *total amount* of stock consumed. A person who orders a Jack Daniels depletes stock; there's one less drink in the bottle. Of course programming isn't "consumed" as whiskey is. A station goes through stock simply by being on the air.

Programming economics defines a unit of stock as one ***hour*** of programming. A station on the air 24 hours a day must produce, purchase, or recycle 24 hours of stock to get through the day.

Even though people don't deplete radio programming in the same way they do beverages, programming *is* "consumed" in a sense when it is heard. Programming economics defines one unit of consumption as one person listening for one hour, or one ***listener-hour.***

CALCULATING CONSUMPTION

Calculating the listener-hours (LH) of service your station provides to the community requires only your Arbitron estimates and a calculator. With these tools you can figure the consumption of all of your programming (that is, your entire broadcast schedule), and you can see how much individual programs and formats contribute to this service.

First, calculate the number of hours a program or format is on the air during the week of the sweep. If you are figuring the consumption of your entire broadcast service, count the number of hours your station is on the air each week between 6:00 a.m. and midnight. This is the H variable.

Second, calculate the average number of listeners to each program or format. If you are calculating for your entire broadcast week, use Arbitron's full-week AQH audience estimate (Monday-Sunday, 6:00 a.m. to midnight). This is the L variable.

Third, multiply each program's L times its H to get its LH, or listener-hours.

You can calculate listener-hours from hourly data when AQH estimates for programs or formats are not available. Here's how to compute the consumption of *Morning Edition* for a hypothetical station airing the service from 5:00 a.m. to 9:00 a.m.

M-F	5a-6a	1,500 AQH persons
M-F	6a-7a	2,700 AQH persons
M-F	7a-8a	4,300 AQH persons
M-F	8a-9a	3,500 AQH persons

Each hour's audience estimate is actually for five days (Monday to Friday), so each counts five hours:

M-F 5a-6a	1,500	L	x	5	H	=	7,500 LH
M-F 6a-7a	2,700	L	x	5	H	=	13,500 LH
M-F 7a-8a	4,300	L	x	5	H	=	21,500 LH
M-F 8a-9a	3,500	L	x	5	H	=	17,500 LH
					TOTAL	=	60,000 LH

On this station *Morning Edition* serves 60,000 LH per week.

Calculating the consumption of jazz programming on this station is a little more complicated, as its broadcast times are not so consistent. The format is programmed 10:00 p.m. to midnight during the weekdays, 8:00 p.m. to midnight on Saturdays, and 9:00 p.m. to 11:00 p.m. on Sundays. The hourly estimates, multiplied times the number of days they represent, are as follows:

M-F	10p-11p	1,000	L	x	5	H	=	5,000 LH
M-F	11p-12m	600	L	x	5	H	=	3,000 LH
SAT	8p-9p	1,200	L	x	1	H	=	1,200 LH
SAT	9p-10p	1,000	L	x	1	H	=	1,000 LH
SAT	10-11p	700	L	x	1	H	=	700 LH
SAT	11-12m	400	L	x	1	H	=	400 LH
SUN	9p-10p	500	L	x	1	H	=	500 LH
SUN	10-11p	200	L	x	1	H	=	200 LH
						TOTAL	=	12,000 LH

Besides showing consumption, listener-hours also indicate programming "effectiveness." For example, the 10:00 p.m. hour of jazz on Saturday is just as effective as the two-hour jazz block on Sunday — each serves a total of 700 LH. Similarly, the 10 hours of weekday jazz are twice as effective as all weekend jazz combined (8,000 LH versus 4,000 LH). Comparing across formats, *Morning Edition* has five times the effect of all of the station's jazz.

Another way to get Ls for any program or format is to run AQH estimates for custom-constructed "dayparts" on the AID system (the RRC provides this service to its members). It may cost a little more, but if you do this exercise each quarter you'll save a lot of time in the long run. Another benefit of creating program- and format-specific dayparts on AID is precise audience estimates for programs beginning or ending on half- or quarter-hours.

The listener-hour combines the number of persons served and the length of time they are served. This transcends cume, AQH, and time-spent-listening notions by combining them into a single measure of gross consumption. Here's how it works: one person using a station for five hours results in five listener-hours; five persons listening for one hour apiece also yield five listener-hours.

In the algebra of programming economics, listener-hours (LH) is the product of the number of listeners (L) times the number of hours (H) they listen. These are readily available numbers. Arbitron's AQH statistic reports the average number of listeners to a program, format, or station. The number of hours a program, format, or station is on the air is straightforward. Listener-hours is calculated simply by multiplying the AQH audience of a service times the number of hours the service is on the air:

LH = L x H = AQH x H

For instance, the most recent audience estimate for CPB-qualified stations is that 715,000 listener-hours are consumed each hour:

715,000 L x 1 H = 715,000 LH

There are 18 hours in a broadcast day. Multiplying this out shows that nearly 13 million listener-hours of public radio are consumed per day:

715,000 L x 18 H = 12,870,000 LH

In one week over 90 million listener-hours are consumed:

715,000 L x 126 H = 90,090,000 LH

If public radio were a pub, it would be serving 90 million drinks per week, 4.7 billion drinks per year.

You can figure your station's numbers based on your most recent AQH audience estimate for persons 12+, Monday-Sunday, 6:00 a.m. to midnight. Multiply this figure by 18 to calculate listener-hours per day; by 126 to calculate listener-hours per week; and by 6,570 to calculate listener-hours per year.

Measuring Listener Satisfaction

While consumption is an excellent gauge of public service, it tells only half the story. Imagine a radio station with many listeners. If they don't value its programming or think it important, then the station is providing little public service despite its large audience.

Therefore, *any assessment of public service must include the concept of listener satisfaction as well as consumption.* Although listener satisfaction may seem difficult to measure, recent research provides the insights and tools with which to do so.

AUDIENCE 88 found that a person's *use* of a public station indicates the degree to which programming appeals to that person. The concept of appeal connotes satisfaction in that the person has chosen certain programming above all other options. In addition, a person's perception that a public station's programming is important in his or her life also points to a high degree of satisfaction.

Taken together, a person's *use* of public radio and assessment of its *personal importance* are the two best predictors of membership. The more a person listens to public radio and values its programming, the more likely that person is to send it money.

These two factors are far more important than a person's *ability* to support (as judged by household income); many well-off people don't give money to public radio, while many not-so-well-off people do.

This means that *the money a listener sends to a station directly reflects his or her satisfaction with that station's programming.*

Focus group research shows an even deeper connection between programming and the people who listen and voluntarily pay for it. Supporters say that public radio is intelligent and of high quality. In fact, the more strongly listeners embrace the concepts of intelligence and quality, the more likely they are to support public radio.

Therefore, aspects of programming quality are tied to listener satisfaction and listener support.

ATTRIBUTING LISTENER INCOME TO SPECIFIC SERVICES

Determining listener income (I_l) for a station's entire broadcast service is an easy task, as it is simply the total income derived from listeners during the period being examined. For instance, if the economics of one year's worth of programming is being assessed, I_l is the total amount of income provided by listeners during that year.

But knowledge of listener income is most useful when tied to the programming inspiring it. This is a much more demanding task. On first thought it seems reasonable to use pledge tracking—that is, to link an on-air drive's pledges to the programming on the air at that time. However, *not only is pledge tracking insufficient for this purpose, it also provides wrong and misleading information.*

There are three problems with the pledge-tracking method. Although many public broadcasters understand these drawbacks, they continue to track pledges, because they assume it is still a valid form of feedback. Unfortunately, it is not.

The first problem is that listeners can pledge only when at a phone, and only then when the situation allows—typically when they are at home and relaxed. For this reason true listener income from *Morning Edition* and *All Things Considered*, which play in morning and afternoon "drive-times," is probably under-represented, while income from *A Prairie Home Companion* and other evening and weekend programming is probably over-represented.

Many professionals try to work around this problem by administering a simple survey to pledgers. The survey asks pledgers to report their favorite programming—presumably, this is the programming that causes them to support the station.

Unfortunately, such self-evaluated preference reports have been shown repeatedly to be highly inaccurate representations of listeners' motives.

AUDIENCE 88 supported this finding by showing that use of the total service is the best single predictor of support. The more frequently people tune in, and the more types of programming that appeal to them, the more likely they are to support public radio. Clearly, listener support must be apportioned across all programming used—not just a listener's reported favorites.

Finally, as the most advanced stations in the system generate more income through off-air renewals, the link between programming and listener support becomes even less apparent.

Technical Details

In order to link listener income to specific services aired on your station, you must recontact your station's Arbitron diary keepers, identify members and membership levels, and merge the required programming, listening, and membership data into the variables called for by the programming economics system. You do this by apportioning each member's financial support across programming, based on the listener's time spent listening to each service.

At the micro level of the individual listener, this method of apportioning listener income across the programming that generates it assumes a generally linear relationship between listener income and programming use, and between listener income and personal importance—assumptions tested with and satisfied by the AUDIENCE 88 database.

In short, membership *correlates highly with satisfaction; listener support reflects the value that satisfied listeners place on the programming that they use.* These findings indicate that listeners' satisfaction with public radio's service — that is, their belief that programming is important and of high quality — can be reported by a simple statistic: the amount they are willing to pay for each hour of programming they use.

The programming economics variable I_l *(income from listeners)* stands for the total amount of listener income generated by a program or format. The monetary value people place on hearing one hour of programming is represented by I_l/LH *(listener income per listener-hour)*. Although using this statistic carries caveats (discussed later), I_l/LH is a fair measure of listener satisfaction and assessment of programming quality and importance.

Listener Income and Public Service

"To serve significant numbers of satisfied listeners with programming of significance...." This ideal ranks high in any public station's mission statement. The programming economics variables examined so far are built squarely on this public service precept. The ability to express public service in quantitative "listener" and "dollar" terms is one of the major contributions of the programming economics system.

It is important to remember that this measure of public service embraces both consumption of programming and listener satisfaction with what they hear. We can create a composite measure of public service by simply multiplying measures of consumption (LH) by satisfaction (I_l/LH).

$$LH \times I_l/LH = I_l$$

The money programming generates from its listeners is a direct function of the public service it is providing. This relationship is fundamental.

- By equating listener income to public service, programming economics injects public service notions into the algebra of economic formulas.
  - Programming a station to maximize public service will also maximize listener income.
  - Significant audience size and programming of significance are both necessary for significant public service.
  - A station reaps listener income only when it serves the public well.
- By balancing the *quantity* of listening with the *quality* of the experience, programming economics embraces the notion that public service is quantitative as well as qualitative.
  - Public service demands accessible programming. As programming is used by more listeners, public service increases.
  - Public service demands quality programming. As programming becomes more satisfying and important to listeners, again, public service increases.

Where This Method Works Best

The programming economics model defines public radio's public service as listeners' use of quality programming that is important in their lives. Yet the resulting equation of public service to listener income will make many readers uncomfortable.

Central to this linkage is the model's equation of I_l/LH to listener satisfaction. This is based on AUDIENCE 88's finding that a listener's *ability to afford membership does not predict membership.* Instead, listener support results from a person's use of and satisfaction with programming — regardless of the listener's income.

However, a person's income *does* affect the *amount* of money contributed to the station once that person has made the decision to support. This means that programming economics' method of allocating listener income and assessing public service may work better under some conditions than others.

As we venture from the universe of public radio's current appeal, we leave the domain of known listeners and understood behavior. The different people attracted by vastly different programming might support for different reasons; or their ability to afford a gift might be a much larger factor.

This ignorance forces us to take care when comparing listener income and public service variables across programs, formats, and stations.

- Programming economics works best when comparing programming with similar appeal. Comparisons made among programs and formats with diverging congruence of appeal may weaken the link between I_l/LH and listener satisfaction.

- Programming economics works best when comparing programming aired on the same station. Comparisons made across stations subject the link between I_l/LH and listener satisfaction to uncontrolled influences (such as the economic well-being of a market or different competitive situations).

- Programming economics works best when comparing programming across a number of stations examined in the aggregate. Uncontrolled influences become less disruptive when combining the statistics from many stations in diverse environments.

Programming economics users will want to keep these caveats in mind, but most will not find them to be major obstacles since users will be comparing programs and formats on a single station, and this programming will have relatively high affinity (the differences in the appeals of public radio's formats and programs are dwarfed when contrasted to the differences between public radio and many commercial formats).

REALITY CHECKS

It may be hard to believe now, but in 1979 many public broadcasters bitterly fought NPR's proposal for a full-scale morning news service. They argued that *Morning Edition* would serve no more listeners than the local programming it would displace.

There were many legitimate arguments against the morning news service, but this wasn't one of them. In all cases where stations rode out the shock waves, *Morning Edition* has proven to be a much more effective service than the programming it displaced.

Another argument leveled against *Morning Edition* suggested that news programming could not attract listener income as well as classical music could. But this argument has also been settled. In 1986 *Morning Edition* ranked alongside *All Things Considered* and *A Prairie Home Companion* as one of public radio's most efficient program services, generating more listeners and listener income than any other service at the national level.

Today, many public broadcasters air programming with limited focus or targeted/specialized appeal, such as drama or children's programming. In many cases they assume that while such programming serves a small audience (even by public radio's standards), it is important to these listeners. Programming economics provides a direct method of testing this assumption.

As the data from 1986 show (Table 22), listeners to drama and children's programming were not overly inclined to support public radio *because of this programming*. Together these services accounted for 1.2 percent of public radio's program hours, yet they generated only 1.1 percent of all listener-hours and .9 percent of all listener income. Listener satisfaction (I_l/LH) with these services was well below the average of all public radio programming.

This will not ring true to many who see these formats "pledging well" during on-air drives. While this seems a reasonable way of tracking listener satisfaction, remember—although *the programming on the air at the time of the pledge can be a catalyst for support, listeners send money because of the total service and satisfaction they derive from the station.* AUDIENCE 88 and programming economics make clear that a person's use of and satisfaction with the whole program service is what causes support.

As this illustration makes clear, small audiences are not necessarily happy audiences.

National Benchmarks

We can examine public radio's service in programming economics terms using data from AUDIENCE 88. The analysis is a national overview based on programming presented by NPR members in 1986. Bear in mind that the effectiveness and the efficiency of various programming are examined in the particular context in which the programming was broadcast. The same programming might be more or less effective and efficient in serving listeners in a different context.

Table 21 shows programming economics' three public service measures for classical music, information, jazz, and everything else. These formats are overly broad for a station's analysis of its own performance; yet they are useful for illustrative purposes.

Classical music accounted for 37 percent of all broadcast hours. These hours generated 38 percent of all listener-hours and 37 percent of all listener income. Notice that these percentages are fairly "flat" — one percentage point of classical music programming yielded about one percentage point of use which generated one percentage point of listener support.

In 1986 NPR stations devoted 22 percent of their hours to information programming; yet this format generated 34 percent of all listener-hours and 38 percent of all listener income. One percentage point of information programming yielded roughly one-and-a-half points of use and nearly two points of listener support and public service.

Table 21

	Percent of National		
	Program Hours	Listener Hours	Listener Income
Classical	37	38	37
Information	22	34	38
Jazz	17	10	8
Everything Else	24	18	17
Total	100	100	100

This relationship is anything but flat. Clearly, in terms of a station's service to the public and the public's service to a station, public radio's news and information programming was much more effective than was its classical music programming.

Public radio's jazz programming was the least effective of the three formats in 1986. It filled 17 percent of all air hours, but generated only 10 percent of all listener-hours and 8 percent of all listener income.

A similar pattern held for all other programming; but here the main drop occurred between the air time devoted to the programming and the listening done to it. This programming didn't earn as much because it served a smaller audience per hour (LH/H = AQH) than did classical music and information.

NPR news magazines — *Morning Edition*, *All Things Considered (ATC)*, and to a lesser extent the few-month-old *Weekend Edition* with Scott Simon — were the driving forces behind the excellent performance of news and information programming (Table 22). "Non-NPR" information programming produced lower listener-hour and listener income returns.

Table 22

	Percent of National		
	Program Hours	Listener Hours	Listener Income
NPR Information	14	27	32
Morning Edition	8	15	18
ATC Weekdays	5	10	12
Non-NPR Info.	8	7	6
Prairie Home	1	4	7
Opera	2	1	1
Drama	1	.9	.7
Kids	.2	.2	.2

THE FOUR FACETS OF PUBLIC SERVICE

Programming economics isolates four components of public service: listeners (L), program hours (H), listener-hours (LH), and listener income per listener-hour (I_l/LH). Each shows one facet of the public service provided by a program, format, or an entire broadcast schedule. These four facets are mathematically linked into an aggregate indication of service, expressed as listener income (I_l).

Analysis offers insights into the relative effectiveness of various programs and formats. The following illustration compares the public service facets of a hypothetical station's programming. This station aired three hours of *Morning Edition* (ME) and 90 minutes of *All Things Considered* each weekday; *A Prairie Home Companion* (APHC) was carried live on Saturday; all other programming was locally-produced classical music.

Classical music's AQH audience (L) was smaller than any other program's. But given the amount of time (H) devoted to the format, it accounted for most of the service consumed by this station's listeners (LH). So even though the other programs were more "popular" in AQH terms, more classical music was consumed—more people listened more hours—than all of the other programming combined.

Listeners valued classical music at slightly less than a penny per hour of use (I_l/LH); they valued all other services at more than a penny. But here again, because of the number of hours classical music was on the air and its relatively high level of consumption, classical music accounted for most of the public service (I_l) the station provided to its community.

APHC was antithetical to classical music on all counts. It claimed the smallest amount of the station's air time, but it attracted the largest AQH audience to the station and was the service most highly valued by listeners.

	L	x	H	=	LH
ME	900		780		702,000
Classical	600		5,278		3,166,800
ATC	1,000		390		390,000
APHC	1,600		104		166,400
All Prg.	675		6,552		4,425,200

	LH	x	I_l/LH¢ =	I_l
ME	702,000		1.18	8,284
Classical	3,166,800		.95	30,085
ATC	390,000		1.19	4,641
APHC	166,400		1.58	2,629
All Prg.	4,425,200		1.03	45,638

Prime Time and Quality Time

Scheduling, placement, on-air promotion, affinity of the surrounding programming — all of these affect the consumption of any programming. The reason NPR news magazines performed as well as they did in 1986, for instance, may be due to their airing during prime time — that is, when radio audiences are largest.

But timing isn't everything. Public radio's history is replete with prime time programming heard by few listeners. Conversely, one of public radio's most popular programs — *A Prairie Home Companion* — flourished in one of radio's "unprimest" times. Like NPR news, *Prairie Home* drew exceptionally high numbers of listeners and listener income for the amount of time it was on the air. Yet unlike NPR news, the show was not aired in prime time.

Clearly, prime time placement is not enough to explain a program's success, just as placement in non-prime time doesn't completely explain a lack of success. Both audience size and listener income depend on some quality inherent in the service from which listeners draw satisfaction.

In 1986 *Prairie Home* and NPR news magazines had this quality more than other public radio service.

Table 23

Listener Income per Listener-Hour (in cents)

Prairie Home	1.58	Classical (Total)	.96
ATC (Weekdays)	1.19	Classical (Local)	.95
APR Distributed	1.19	*ATC* (Weekends)	.94
Morning Edition	1.18	*Weekend Edition*	.92
NPR News Mags	1.16	Children's	.87
ATC (Total)	1.16	Seaway Distrib.	.84
Information	1.10	Drama	.80
Classical (NPS)	1.10	NPR-DSAP	.80
Opera	1.08	Specialized Aud.	.79
EPS Distributed	1.04	Instruction	.75
		Jazz	.74
All Prg. Average	.99	Parkway Distrib.	.69

They accounted for 15 percent of public radio's air time, yet they generated 30 percent of all listener-hours and nearly 40 percent of all listener income.

Something special about these services satisfied listeners; something special made the services worth paying — and paying more — for. In focus groups listeners call this something special "intelligence," "quality," "open-mindedness," "global perspective." Programming economics calls it "listener income per listener-hour", as displayed on Table 23.

AUDIENCE 88 illustrated that satisfaction is highly related to programming's resonance with a listener's attitudes, values, and lifestyles. In 1986, the appeal of *Prairie Home* and NPR news magazines resonated strongly with public radio's listeners.

Efficiencies

Up to this point we have examined only *effectiveness* issues. Programming causes people to listen; it satisfies them in some way; it causes them to support; these are the *effects* of programming.

Comparing the effectiveness of various programming options is more than an interesting exercise. Each public station has only 168 hours per week to serve an audience. The more effective its schedule, the greater its public service to its community.

But effectiveness is not the only criterion on which we can judge programming — or anything, for that matter. When buying a car, for example, we usually assume that any model will be able to cruise down the pike at a steady 55 miles per hour; that's an effectiveness concern. But some cars will do this using less gas than others; this is an *efficiency* consideration. In the same way, assessing the performance of programming requires looking at how *efficiently* it performs.

Webster defines "efficiency" as "the ratio of useful energy delivered by a dynamic system to the energy supplied to it" — essentially output divided by input.

In our dynamic system, one unit of "input" is an hour of programming, out of which comes listener-hours and listener income. Two efficiencies emerge when we put these outputs over their common input.

LH/H = Listener-Hours per Program Hour
The audience service directly attributable to one hour of a program or format; equal to AQH (by definition, since AQH x H = LH).

I_l/H = Listener Income per Program Hour
The audience support directly attributable to one broadcast hour of a program or format. (Don't confuse I_l/H with I_l/LH — they are two very different measures.)

Table 24 shows these efficiencies for NPR member stations in 1986. At that time, these stations had an AQH audience of 620,000 listener-hours per program hour. Based on this measure, information was about 50 percent more efficient than classical music programming (960,000 vs. 640,000 LH/H) and 2.6 times more efficient than jazz (960,000 vs. 370,000 LH/H).

Over the course of the 6,552-hour year, NPR member stations generated $6,100 of listener income per hour across all programming on all stations (roughly $200 per station per hour, on average). On this basis, information programming was the most efficient of the three major formats; jazz was the least efficient.

Table 24

	Listener-Hours Per Hour	**Listeners Income Per Hour**
Information	960,000	10,500
Classical	640,000	6,100
Jazz	370,000	2,700
Everything Else	460,000	4,500
NPR Information	1,180,000	13,700
Non-NPR Info.	530,000	4,600
Prairie Home	1,990,000	31,600
Opera	400,000	4,300
Drama	550,000	4,400
Kids	730,000	6,300
All Prg. Average	620,000	6,100

Applications

Astute readers are already thinking ahead to the applications of this public service information.

- How much public service do certain programming options accomplish for every dollar put into them?
- Do some programming options "pay" better than others?

Programming economics looks at *both* sides of the ledger by identifying program-specific costs as well as benefits. Together, they complete a series of program-specific measures that public broadcasters can enter into their own management equations.

For instance, analysis may show some inexpensive programming to be no bargain, while highly efficient and effective programming that yields more listeners and more listener income — programming economics' two public service components — may be worth a hefty premium. Assessing the appropriate range of this premium requires completing the full programming economics exercise, which is done in the following chapter.

Summary

Public radio is both a service and a business. As it becomes increasingly dependent on support from the listening public, public radio does well by doing good. From both a service and business perspective it must consider the quality of programming and the quantity of its use. Quantity without quality doesn't serve the public, and quality without quantity doesn't keep a station in business.

By making these relationships explicit, programming economics helps public broadcasters evaluate programming options across objective, consistent, and relevant measures of comparison. It links listening to programming and satisfaction with that programming directly to the responsible fiscal management of the station. Furthermore, it makes these links at the level of the individual program and format, which is essential for comparing the returns on various programming investments.

3.
INCOME, COST, AND RETURN

Radio programmers invest their stations' resources whenever they buy or produce programming. Not only does this investment yield service to the public, it also returns money to the station. In this sense, some programming options are better investments than others. Programming economics allows public broadcasters to compare the costs of various options against the returns they generate. It also shows how individual programming decisions combine to affect the finances of the entire station.

The preceding chapter presented a detailed method for allocating listener income to a station's programming. Listener income is only one part of a station's budget, however, and a complete programming economic analysis must incorporate additional revenues and costs.

Completing the Income Side of the Equation

Most stations have several sources of income that, like listener support, are readily and directly attributable to programming.

A major program-related income source is ***underwriting income*** — funds from businesses, foundations, and individuals that are contributed for the specific purpose of supporting programming. For this discussion, underwriting does not include contributions for general support.

Most underwriting is tied to a specific program. Increasingly, however, stations are seeking underwriting for formats or types of programming (e.g., a news fund). In these cases, the station must apportion the underwriting income to specific program services. Two methods of doing so are discussed on the following page.

Another source of program-related income is ***in-kind support***. Examples might include donated musicians' fees, use of an auditorium for a live broadcast, or free use of special audio equipment, when these donations are directly program-related.

In addition to listener income, underwriting income, and in-kind support, stations may have ***other funds*** that may be attributable to programming, but that do not fall clearly into one of the prior categories. Because the circumstances of income — and the strings attached to it — vary so widely within public radio, each station will need to make its own determination in these matters, as long as the income is directly related to programming.

Finally, stations must consider ***matching grants*** that are earned by program-related income. The major portion of Community Service Grants (CSGs) and National Program Production and Acquisition Grants (NPPAGs) provided by the Corporation for Public Broadcasting are awarded on a matching basis. A number of states also provide some support on a matching basis.

With matching grants, the key is to determine the portion of the grant earned by the program-related income. Generally, this can be done by multiplying the amount of program-related income that qualifies for the match by the appropriate matching rate.

In FY 1989, the "rate of return" for CPB's public radio grants was 0.185. A station with $100,000 in programming income would earn $18,500 from CPB. Program-related income earns CPB dollars for the second following year, while the funds the station is currently receiving were earned by prior efforts.

In fact, there is a time lag on most matching grants. For decision-making purposes, it is more appropriate to base programming economics calculations on the dollars earned by current programming, even though some of that income may be deferred.

ATTRIBUTING UNDERWRITING INCOME TO SPECIFIC SERVICES

Determining underwriting income (I_u) for a station's entire broadcast service is an easy task, as it is simply the total income derived from underwriters during the period being examined. For instance, if one year's programming is being assessed, I_u is the total amount of income provided by underwriters during that year.

But knowledge of underwriter income is most useful when tied to the programming generating it. The way to calculate this depends on the nature of the underwriting.

When underwriting is tied to a specific program or format, then that money is attributed directly to the given service. For instance, if an underwriter pays $500 for credits that appear only in jazz programming, then all $500 count when calculating the I_u for jazz.

Underwriting that is not tied to a specific program or format needs to be apportioned across the programming that it supports. One way to do this is to divide an underwriter's total support by the total number of credits this support purchased; this yields the "average underwriting income per credit." This amount can then be apportioned across the programming in which the credits were aired.

For instance, assume an underwriter pays $500 for 50 credits on *Morning Edition* and 50 credits on weekday *All Things Considered*. Five hundred dollars for 100 credits is an average income to the station of $5 apiece. *Morning Edition* could be credited with $250 of this income; $250 could be credited to *All Things Considered*.

A more complex yet perhaps more appropriate way to apportion this income is by the "gross impressions" method. The term "gross impressions" (GIs) is used in advertising to report the gross number of times an advertisement is heard by listeners. It is calculated by multiplying the number of credits by the AQH audience listening when each spot is aired.

	AQH	**x Credits**	**=**	**GIs**	**I_u**
ME	800	50		40,000	200.00
ATC	1,200	50		60,000	300.00
Total		100		100,000	

On our example station, the credits made 100,000 gross impressions at a cost to the underwriter of $500 — that's one-half cent per impression, or $5.00 per thousand. Apportioning the underwriting income in this way credits *Morning Edition* with $200 and *ATC* with the remaining $300.

The result is not much different from the one using the previous method, so why go through the added hassle? Quite simply, calculating underwriting income with this method links what an underwriter is paying with what an underwriter is paying for.

Many underwriters think of underwriting credits as advertisements of sorts. The rates they pay for advertising in commercial media are set and evaluated by the cost of reaching one thousand people one time, or the cost per thousand gross impressions. By using this method you can better assess and charge what your air time is worth, in terms that an underwriter will readily understand.

The gross impression method apportions underwriting income quite differently than the number of spots method. The differences are most striking when the programs and formats in which credits are heard have significantly different AQH audiences.

To summarize, programming economics deals with five income variables: listener income (I_l), underwriting income (I_u), in-kind support (I_i), any other sources of program-attributable income (I_o), and the matching funds all this income earns (I_m). Together, they yield a program's, format's, or service's total income (I):

$$I = I_l + I_u + I_i + I_o + I_m$$

Programming Cost

The investment made by a station to acquire or produce programming is its ***program cost***.

One would think that identifying the cost of a program would be a simple matter — producers put prices on their products and sell them to a station, or staff producers work for a given salary, with supplies and equipment. These direct, program-related expenses of acquisition and production are, in fact, the starting points. But it may take additional steps to round out the cost of a particular program or programming stream.

In the case of locally originated programming, stations need to prorate a number of expenses shared among more than one program (e.g., supplies, news wires, and program support staff). These expenses are added to the direct costs of production.

It is also necessary to add in the value of any in-kind donations (to the extent they have been counted as program-related income), since these donations are, in effect, spent as they are received. For example, if donated musicians' fees are included as income for a program, they are also part of that program's cost.

As for acquired programming, the vast majority of such material purchased by stations is currently offered in some kind of package or bundle that includes more than one program or service. It is necessary to determine which costs in the package apply to which programming elements.

Some programming packages include a membership or affiliation fee that must be paid before any programming can be purchased. Although such fees may be earmarked for nonprogramming services that benefit the station, many stations pay this fee partly or entirely because it allows access to the supplier's programming.

With this in mind, a station may elect to allocate the fee to general operating costs, across all programming acquired from that supplier, or in some combination of these approaches.

Even when programming packages include only programming costs, stations will find that their programming decisions are based only on some elements of the package. Again, some choices must be made, but they are clearer. Programming economics specifies that the cost of the entire package should be allocated across the discrete elements actually used by the station. How this is done — whether on an average "cost per broadcast hour" or by some other form of allocation — is up to the station.

Finally, when considering the cost of presenting acquired programming, the station must include the local costs associated with specific programs, such as a local host or locally produced segments. More general costs, such as transmission and promotion, will be discussed below.

How a station handles these cost allocations for both local production and acquired programming may also depend on the time frame and scope of possible decisions to which the programming economics analysis is being applied.

For the short term, or when only modest adjustments are contemplated, costs such as a news director's salary or a network affiliation fee may be considered as "fixed costs" — they will not change whatever adjustments the station makes at the margin. Over the long term, or when a station is willing to put more of its operation under scrutiny, such items should definitely be allocated to the specific programming they support.

Return and Return On Investment

Every programming decision can be seen as an investment with different types of returns. People listen to the programming and are satisfied with it; they send money to the station as a result; underwriters pay money to the station to be associated with the programming; and so forth.

Programming economics summarizes the *return* (*R*) on a programming investment by subtracting the cost of acquiring or producing a service (C) from the total income (I) it generates:

R = I - C

When the cost of airing a program is greater than the income attributable to it, the return is negative, which is also called a *deficit*. When the income attributable to a program exceeds the cost of airing it, the return is positive, or a *surplus*.

Another way to compare various programs and formats is by their ***return on investment (ROI)***. ROI summarizes how much is returned from a program service in relation to how much is invested in it.

ROI = I / C

Return on investment can be thought of as a measure of efficiency. A program with a high ROI is efficient — a small investment produces a lot. A program with a low ROI is not very efficient.

A program that earns $3,000 in listener support and underwriting and costs $2,000 would have an ROI of 1.5 — it returns $1.50 for every $1.00 invested. A program that earns $500 and costs $100 would have an ROI of 5.0 — it returns $5.00 for every $1.00 invested. With its higher return on investment, the second program is more efficient, but it returns only $400 compared to the first program's $1,000.

As these examples illustrate, the return on investment for an inexpensive program can be extraordinarily high, even though the actual return, in real dollars, is relatively small. Very expensive programming may appear inefficient because of its relatively low return on investment. But it may generate a significant amount of income. Accordingly, *absolute return (R) is generally a more useful statistic than relative return (ROI)*.

Levels of Analysis

The three basic factors of programming economics — programming cost, programming income, and programming return — can be applied at several levels of analysis.

The approach most familiar to station managers and programmers is analysis at the level of the program: what do we pay for a given program, how much do we make on that program, and what is the net?

However, when making comparisons among programs a uniform framework is helpful. By dividing a service's cost, income, and return by the number of hours it is broadcast, programming economics derives standard reference points of cost per program hour, income per program hour, and return per program hour.

Finally, it is possible to shift the focus from the input side to the output side — to the service provided to listeners. By dividing a program's cost, income, and return by the number of listener-hours it generates, one shifts the reference point to audience service.

As discussed in Chapter 2, listener income per listener-hour is an important measure of listener satisfaction with programming. Cost per listener-hour indicates the effort needed to produce that satisfaction. And return per listener-hour is perhaps the best single monetary measure of programming's efficiency in providing listener service. Each of these approaches is applied and discussed in the programming economics case study in the following chapter.

Allocating Indirect Costs and Incomes

Up to this point our discussion has focused on the income, cost, and return *directly* related to programming. Programming and nonprogram-ming areas have been treated as essentially discrete categories of station operations.

We have divided income between funds that are specifically associated with programming and those from other sources or for other purposes. We have similarly divided expenses — those that support specific programming and those that support other activities.

The advantage of this approach is that it isolates and highlights the economic factors associated with particular programs and formats. It clarifies the impact of programming operations on the overall station, and, more specifically, identifies the fiscal impact of discrete programming elements.

What about the rest of a station's operations? Every station has costs that are not directly attributable to programming — what is generally termed overhead. And most stations have income that is truly general support — such as licensee support from educational institutions.

It is possible to use standard accounting techniques, informed by programming economics principles, to allocate nonprogramming income and costs to the various elements of a station's programming. This approach is called a fully allocated budget.

Fully Allocated Income. The simplest method for allocating nonprogramming income is to apply the income equally across all program hours.

A somewhat more sophisticated analysis would hold that most general support, whether from the licensee, CPB, or elsewhere, is provided to enable the station to serve listeners. These funds would therefore be allocated to programming in proportion to the listener-hours each program generates.

A further refinement would employ the linkage between listener income and public service explored in Chapter 2. We noted there that listener income is an indicator not only of listeners' use of programming, but also of their satisfaction with it. If use *and* satisfaction are a better indicator of public service than use alone, then general support might best be allocated in proportion to listener income.

Within a single station it may be appropriate to use a combination of these approaches for different types and sources of nonprogramming income.

Fully Allocated Costs. Stations face a similar set of choices in allocating nonprogramming costs to programming.

A conventional method of allocating overhead costs for service organizations is in proportion to direct expenses incurred in providing the service. This method assigns each program a share of overhead that reflects its share of total programming costs.

Another accounting method is to allocate overhead in proportion to "output." Under this approach, nonprogramming costs would be divided equally across all program hours. Alternatively, a station might consider listener-hours as its "output," and divide its overhead accordingly.

Some organizations group overhead items in two or more "cost pools," each of which has its own method of allocation. For example, costs associated with the station's transmitter (depreciation, electric bills) and the station's program guide would be spread evenly across program hours. Costs of management and administration would be applied in relation to the direct expenses of various program areas. And costs of promotion and fundraising would be keyed to listener-hours.

Is Full Allocation Worth the Effort?

To design and manipulate fully allocated budgets requires a certain sophistication. But once in place, fully allocated budgets have several useful purposes. They are one of best ways to link administrative and overhead costs, and the revenues needed to support them, to actual services. They help clarify the relative balance among activities of an organization. For these reasons, fully allocated budgets are especially recommended for presentations to funders and constituents.

Fully allocated budgets can also be helpful internally. Fully allocated costs highlight the "fair share" of costs that each activity should carry, or alternatively, the way in which some activities are effectively subsidizing others.

A producer, for example, may promote a program on the basis that it will earn more from listeners and underwriting than the producer is charging. A station might counter that income needs to cover not only acquisition fees, but also the costs of broadcasting the program and a share of all other costs of being in business. The savvy producer will rejoin by noting that other station income, from CPB, the licensee, and others, is received because of the kind of programming the producer has to offer.

While this may seem like a complicated escalation, the notions of full cost and full income are the correct reference points by which station decision makers should ultimately guide their investments.

If fully allocated income and costs provide a more accurate picture, why should a station consider the approach in which programming is examined apart from the rest of the station's activities?

One reason is simplicity — full allocation of income and costs takes time and skill, which translate as costs to the station. If the additional income and costs involved are marginal to begin with, or if they are likely to have a uniform effect on all programming, it may not be worth the effort.

It is important to balance the desire for precision with the utility of the outcome. It is worth making full allocations only if the results are likely to make a material difference in the portrait of station operations.

Further, fully allocated budget figures must be used with care. When the cost of an activity includes a share of fixed overhead, the full cost would not be eliminated if the activity were terminated. The manager would still draw a salary, the rent would still be due, and so forth; the activity's share of these fixed costs would be assumed by other programming. Similar shifts and reallocations occur on the income side, too.

Quite often, stations can obtain the information they need to make programming decisions from the simpler approach. But as noted earlier, the longer the time frame of analysis, and the broader the areas of possible change, the more important it is to consider *all* factors as programming related and to include them in the analysis.

4.
LOCAL ANALYSIS

In 1988 Connecticut Public Radio (CPR) undertook a full-scale programming economics analysis, the first station to use the system outlined in this book. Dr. George Bailey of Walrus Research directed the study under the auspices of station manager John Berky and program director Eric Hammer.

A reinterview study of diary keepers provided the basis for allocating listener income to programming, as described in Chapter 2. Listener income, combined with other programming-related income, produced over $1,000,000 of income for CPR. Management identified over $300,000 in direct programming costs.

The $700,000 difference between the programming-related income and the programming-related costs was not pocketed "profit." While almost all of CPR's income is programming-related, and thus included in the analysis, costs not reflected here include facilities, management, administration, and a variety of indirect programming expenses not attributed to specific programming.

Management worked through programming economics analysis twice — once using the programming-only approach, as described above, and once using the fully allocated approach. While the two analyses produced

PROGRAMMING SCHEDULE
CONNECTICUT PUBLIC RADIO

ME	*Morning Edition*	M-F	5:30a-7:00a
MPM	*Morning Pro Musica*	M-S	7:00a-12:00n
AC	Afternoon Classical	M-F	12:00n-4:00p
OA	*Open Air New England*	M-F	4:00p-5:00p
ATC	*All Things Considered*	M-F	5:00p-6:30p
EC	Evening Classical	M-F	6:30p-9:30p
WE	*Weekend Edition*	S-S	12:00n-2:00p
PH	*Prairie Home*	SAT	6:00p-8:00p

Morning Edition: one half hour of locally assembled material followed by one hour of network feed. *Morning Pro Musica*: classical music from records, with Robert J. Lurtsema from Boston. Afternoon Classical: classical music from records, local. *Open Air New England:* a features magazine produced locally. *All Things Considered:* a full 90-minute cycle aired live. Evening Classical: classical music from records, with drop-ins of local performances recorded by Connecticut Public Radio.

APPLYING PROGRAMMING ECONOMICS

BY JOHN F. BERKY

As the first public radio station to undertake a programming economics analysis, we had the unique experience of wrestling with some very powerful information with few measures of comparison. Over the past few months we have implemented programming, management, and accounting changes based on the results.

In our case the analysis showed several "money-making" programs, particularly *Morning Edition*, *Morning Pro Musica*, and *All Things Considered*. Our first examination indicated that *Morning Pro Musica* was by far our most successful program because it raised the most money. But when income was calculated on a per-hour basis, the program's ranking fell to fourth place behind *Morning Edition*, *All Things Considered*, and *Prairie Home.*

The NPR programming is somewhat expensive on a cost-per-program-hour basis; yet, for us, high levels of listener satisfaction, listener-hours, and listener income make it a good investment. *Morning Pro Musica* is effective because it is inexpensive for the number of broadcast hours it fills. It basically "defines" our station to listeners by generating 40 percent of all listener-hours; yet listener satisfaction with it is lower than with almost any other program. This was a revelation to station staff, who see this both as a problem and an opportunity.

On the negative side are two local endeavors: *Connecticut Concert Hall* (in the Evening Classical block) and *Open Air New England*. These programs represent important local initiatives that we feel distinguish our station within the community; yet the resources put into their production make them appear to be "money losers." While the first inclination might be to remove them and pocket the change, further thought convinced us to reallocate their expenses by spreading the programming into other areas of our schedule.

Essentially, we were creating a good product with these programs, but limiting its exposure so that it could not be cost effective. An analogy would be to hire the best chef and serve delicious dinners, but then open your restaurant only between the hours of 3 and 4 o'clock in the morning. The product is good, but your customers have little opportunity or desire to sample what you serve.

We ran both fully allocated and programming-only analyses. When done correctly, a fully allocated analysis can pinpoint the exact break-even points for each program and format.

After considerable review it was clear that even the simpler programming-only form of programming economics is a powerful tool in evaluating the *relative* economic performance of specific programming.

Unless you feel you must find the precise "breakeven" points for each program service you air, just concentrate on the revenues and expenses that are attributable directly to programming. On the revenue side, they are listener income and underwriting income. On the expense side, they are the costs of your programming staff, your production budget, and your program acquisition costs.

These numbers are easy to assemble. Combined with a reinterview of your Arbitron diary keepers, the result is an analysis that clearly indicates what is working for you, what is not, and why.

different numbers, the questions each informed, and the decisions they led management to make, were essentially the same.

For the sake of clarity, and because this book's focus is on decision making, this case study presents the programming-only analysis.

Gross and Net Measures

Although many stations use different methods to allocate listener income, programming economics' concepts of program cost, program income, and net program return are familiar to most. These measures may also be the most important, since as "bottom lines" they tell whether programming is making or losing money for a station.

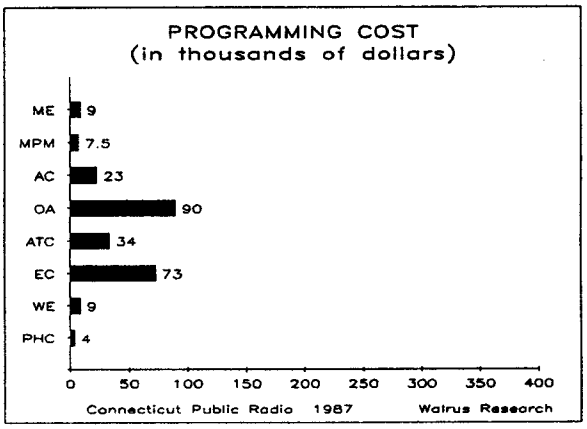
Morning Pro Musica (MPM) had the highest gross return for Connecticut Public Radio in 1987. It cost the station only $7,500 in direct program costs, but it generated $332,000 — $306,000 in listener income and $26,000 from underwriting.

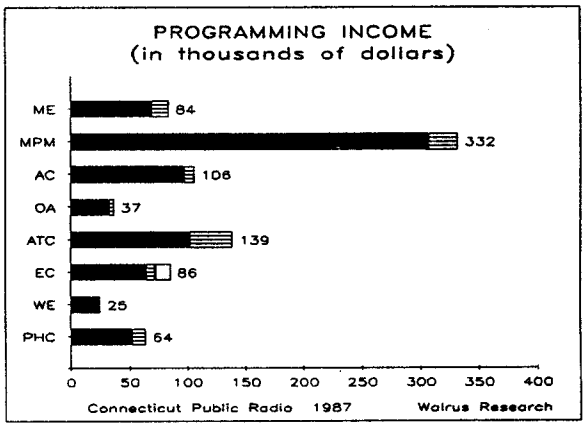
The station paid National Public Radio $52,000 for *Morning Edition*, *All Things Considered*, and *Weekend Edition*. Underwriting income of $53,000 offset the direct expense of these programs; $195,000 in listener income created a positive return.

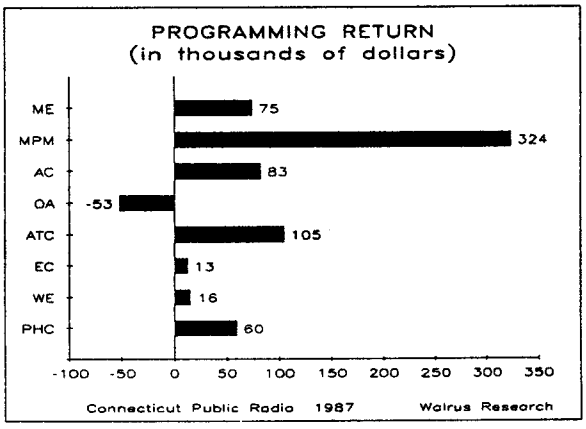
The $4,000 the station paid American Public Radio for *A Prairie Home Companion* generated $12,000 in underwriting income and $52,000 in listener income, for a positive return of $60,000.

A few words are in order about this profitable programming. In the 1920s the radio industry discovered that by spreading programming costs over a number of stations, each station can broadcast higher quality programming, at a lower cost, than it could generate if it produced each second itself. This parsimony is the reason for the prevalence of networks in all electronic mass media.

These examples from Connecticut illustrate the economies of scale that can be realized from cost-sharing arrangements. Since a station bears the full production costs of local programming alone, its cost is often higher, its income is often lower, and its return is often much less then for network programming. This is certainly the case at CPR.







On the income graphs, the black portion of each bar shows listener income, the shaded portion shows underwriting income, and the white portion shows matching income.

Basic Programming-Attributable Economic Measures

	H	L (000)	LH (000,000)	I_l ($000)	I_u ($000)	I_m ($000)	I ($000)	C ($000)	R ($000)
Total Station Service	7436	6.3	46.6	870.0	130.0	14.0	1014.0	304.8	709.2
Morning Edition	390	6.1	2.4	69.4	15.0	.0	84.4	9.0	75.4
Morning Pro Musica	1820	10.3	18.8	305.8	26.0	.0	331.8	7.5	324.3
Afternoon Classical	1040	6.6	6.9	97.0	9.0	.0	106.0	23.4	82.6
Open Air New England	260	7.2	1.9	32.3	5.0	.0	37.3	90.0	-52.7
All Things Considered	390	10.9	4.3	101.6	37.0	.0	138.6	33.9	104.6
Evening Classical	676	5.3	3.6	63.8	8.0	14.0	85.8	73.0	12.8
Weekend Edition	208	6.1	1.3	24.1	1.0	.0	25.1	9.0	16.1
A Prairie Home Companion	208	8.9	1.8	52.0	12.0	.0	64.0	4.0	60.0
Everything Else	2444	2.3	5.7	124.18	17.0	.0	141.2	55.0	86.2

Economics Per Program Hour

	LH/H (000)	I_l/H ($)	I_u/H ($)	I_m/H ($)	I/H ($)	C/H ($)	R/H ($)
Total Station Service	6.3	117.00	17.48	1.88	136.36	40.99	95.37
Morning Edition	6.1	177.89	38.46	.00	216.35	23.08	193.27
Morning Pro Musica	10.3	168.00	14.29	.00	182.28	4.12	178.16
Afternoon Classical	6.6	93.26	8.65	.00	101.91	22.50	79.41
Open Air New England	7.2	124.06	19.23	.00	143.29	346.15	-202.86
All Things Considered	10.9	260.40	94.87	.00	355.27	87.05	268.22
Evening Classical	5.3	94.32	11.83	20.71	126.87	107.99	18.88
Weekend Edition	6.1	116.01	4.81	.00	120.81	43.27	77.55
A Prairie Home Companion	8.9	249.97	57.69	.00	307.66	19.23	288.43
Everything Else	2.3	50.81	6.96	.00	57.76	22.48	35.28

Economics Per Listener-Hour

	I_l/LH (¢)	I_u/LH (¢)	I_m/LH (¢)	I/LH (¢)	C/LH (¢)	R/LH (¢)
Total Station Service	1.87	.28	.03	2.15	.65	1.49
Morning Edition	2.92	.63	.00	3.56	.38	3.18
Morning Pro Musica	1.62	.14	.00	1.76	.04	1.72
Afternoon Classical	1.41	.13	.00	1.54	.34	1.20
Open Air New England	1.72	.27	.00	1.99	4.81	-2.82
All Things Considered	2.38	.87	.00	3.25	.80	2.46
Evening Classical	1.79	.23	.39	2.41	2.05	.36
Weekend Edition	1.89	.08	.00	1.97	.71	1.26
A Prairie Home Companion	2.82	.65	.00	3.47	.22	3.25
Everything Else	2.17	.30	.00	2.47	.96	1.51

Note: Derived numbers may not be exact because of rounding.

H = Hours the program service is on the air
L = Listeners to an average hour of a program service
LH = Listener-Hours (L x H)
I_l = Income from listeners
I_u = Income from underwriters
I_m = Income from matching grants
I = Income from programming-attributable sources ($I_l + I_u + I_m$)
C = Direct cost of the programming service
R = Return of the programming service (I - C)

Of the three local blocks identified for this analysis, the station's afternoon classical (AC) programming cost the least ($23,000) and generated the most income ($106,000). It returned $83,000 to the station.

The station recorded a number of local concerts and aired them during its evening classical (EC) programming. These activities cost the station $73,000 in out-of-pocket expenses; yet the resulting programming barely returned this amount in listener income ($64,000) and underwriter income ($8,000). If it were not for the estimated $14,000 in additional CSGs these recording activities will bring to the station from the waiver of musicians' fees, this programming would have run a small deficit.

At a cost of $90,000, locally produced *Open Air New England (OA)* was the most expensive program on the station. Yet it generated only $37,000 in income, for a net loss to the station of $53,000.

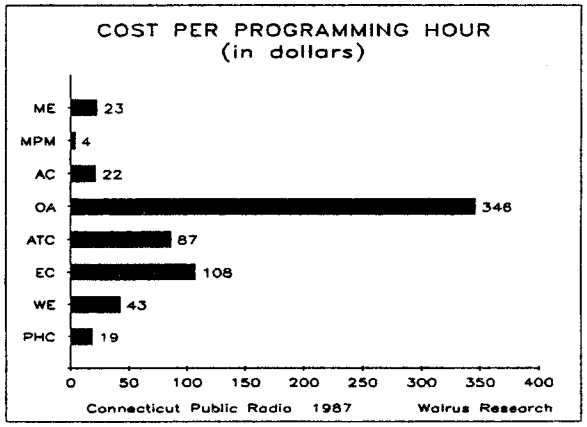
Economies per Programming Hour

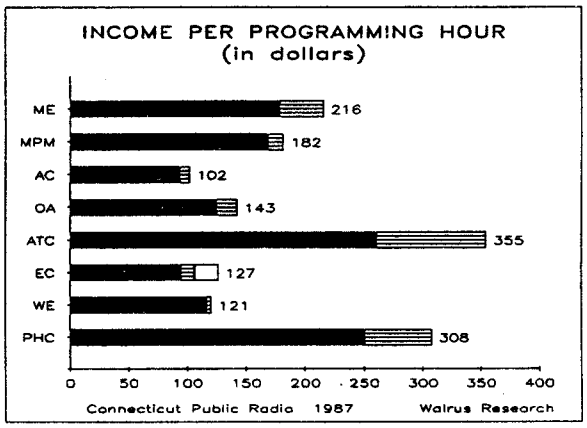
One reason *Morning Pro Musica* generated such a large proportion of CPR's income is because it occupied such a large portion of the station's schedule. To compare effectiveness and efficiency, the different programs and formats should be examined on an equal footing.

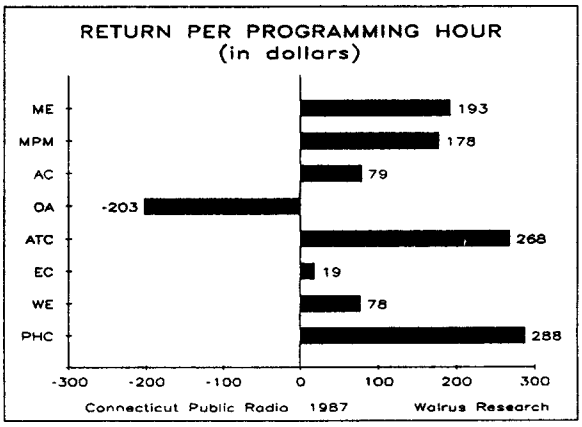
One way that programming economics controls for differences in program quantity is by adjusting cost, income, and return to an hourly basis — that is, the cost of airing programming for one hour, the income generated in that hour, and the resulting per-hour return.

CPR's most expensive programming, *Open Air New England*, cost the station $346 per hour in direct costs, compared to the $4 an hour cost of *Morning Pro Musica*. Yet the hourly income from these two services was quite comparable — $143 for *Open Air* and $182 for *Morning Pro Musica.*

Clearly, the differences in return among CPR's programs and formats are driven primarily by cost factors rather than income. While CPR paid 84 times more per hour to produce its most expensive service than it paid to acquire its least expensive service, the range between the highest and lowest listener incomes was less than three-fold — $260 for *All Things*







On the income graphs, the black portion of each bar shows listener income, the shaded portion shows underwriting income, and the white portion shows matching income.

Considered compared to $93 for afternoon classical programming.

All Things Considered and *A Prairie Home Companion* returned the most money to the station on an hourly basis. Both were well-supported by underwriters and listeners. *All Things Considered* generated $260 from listeners and $94 from underwriters each hour it was on the air; *Prairie Home* followed close behind with $250 and $58, respectively. However, the lower hourly cost of the APR service gave it a higher hourly return.

Station management can increase a service's per-hour return by either reducing its per-hour cost or increasing its per-hour income.

There are several ways to reduce costs. When programming can be repeated at little or no additional cost, production or acquisition costs can be spread over more hours. As long as the repeat broadcast is more profitable than the programming it replaces, the station's net return will increase. CPR's rebroadcast of *A Prairie Home Companion*, for example, cost the station very little in additional fees, but it cut the per-hour cost of the program nearly in half.

After studying this analysis, management decided to place its locally recorded performances into all classical music blocks, thereby gaining greater use of the material, making it available to more listeners, and spreading its cost across programming blocks.

Another way management can reduce the per-hour cost of programming is to use more materials from producers who offer their services for a fixed price. For example, NPR charges a single fee for access to its morning news magazines regardless of the number of hours used; a station pays the same whether it uses one hour of *Morning Edition* or six. Taking advantage of more hours of a fixed-price service reduces per-hour costs proportionally.

Station management can also increase a service's per-hour return by increasing the amount of income it generates. The most important step is to assure that the programming itself is the best it can be for the resources available, since program quality is reflected in listeners' satisfaction and financial support. Also important are tactics that make the programming available to as many listeners as possible — through appropriate scheduling, congruence of appeal with adjacent programming, and effective on-air promotion.

More effective fundraising and more aggressive underwriting are also ways to increase income, but their success ultimately turns on the quality of the programming itself.

Economies per Listener-Hour

Examining programming on a per-hour basis makes it possible to compare programming that appears on a station's schedule with different frequency and duration. The analysis uses a standard basic unit of production — the program hour.

Programming economics also makes it possible to go one step further, to standardize the analysis with respect to a basic unit of consumption, or service — the listener-hour.

Stop for a minute to consider what listener-hour economies really mean. ***Cost per listener-hour*** is the cost to the station of achieving one "unit," or listener-hour, of service. ***Listener income per listener-hour*** is the value listeners place on this unit of service. ***Underwriting income per listener-hour*** is the value underwriters place on being associated with programming in one listener's mind for one hour.

Listener and underwriter income per listener-hour are the station's "reward" for serving one person for one hour. When the cost of achieving one listener-hour of service is subtracted from the income this service generates, the ***return per listener-hour*** — the net gain (surplus) or loss (deficit) of serving one listener for one hour — is what remains.

Listener-hour economies are important to understand because, as a group, they are one of the most consequential advances made by the programming economics system as outlined in this book. What is new is the definition of a unit of programming consumption (the listener-hour) and its relationships with the cost of providing this service, the listener satisfaction with this service, and underwriters' willingness to pay for this service.

Graphs of Connecticut Public Radio's listener-hour economies are to the right. As can be seen, the cost of serving one listener for one hour ranged from *Morning Pro Musica*'s four-hundredths of a penny to *Open Air New England*'s 4.8¢ — 120 times more expensive!

Listener-hour analysis provides a final insight into *Morning Pro Musica*'s service. *Morning Pro Musica* had the lowest listener income per listener-hour of any acquired program, and the second lowest of all programming. In other words, it had a high return because it was cheap and plentiful — not because listeners were highly satisfied with it.

Afternoon classical generated even lower levels of listener satisfaction. In short, the station's entire weekday music schedule from 7:00 a.m. until 4:00 p.m. was the least satisfying — the least important and the least worth paying for — according to the people who listened to it.

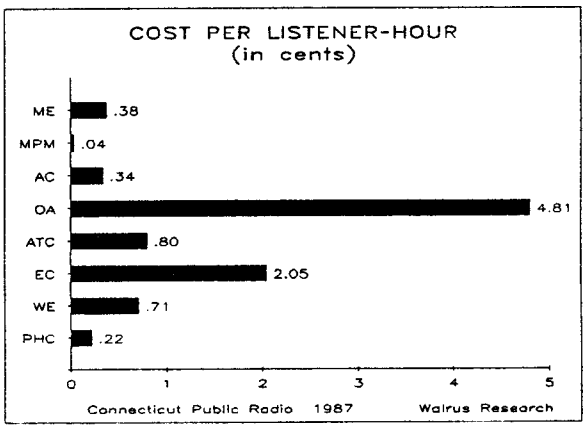
Both *Open Air* and *Evening Classical* have exceptionally high costs per listener-hour. Their listener income per listener-hour was only on a par with other services, however. Consequently, the station was spending more per unit of service (the listener-hour) than listeners were willing to pay in return.

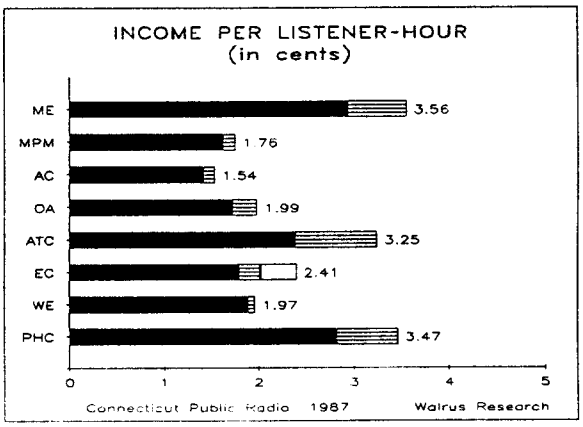
Open Air winds up with a deficit (negative return) — the only program to do so; all other programming produced surpluses. Evening classical music had a positive return, despite its high cost per listener-hour, because of CPB matching dollars tied to the program's in-kind support (donated musicians' fees).

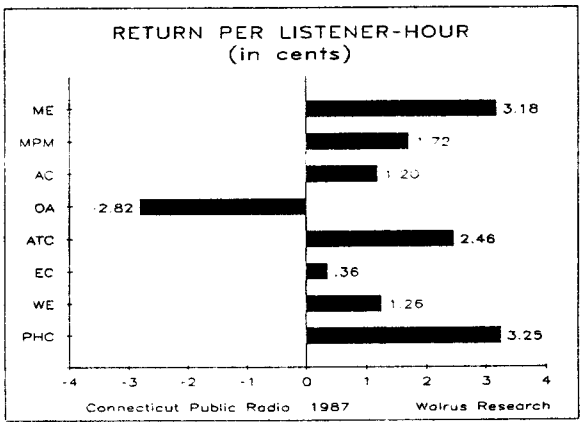
Remember that these deficits and surpluses concern only the incomes and costs directly associated with programming. A fully allocated analysis would yield different "bottom lines."

Before leaving this analysis, we point out one more use of listener-hour economies — that is, as a way to set underwriting rates. As discussed earlier, many underwriters measure their support by the number of gross impressions they make on people listening to the underwritten programming.

In Connecticut, *All Things Considered, Morning Edition,* and *A Prairie Home Companion* earned between .63¢ and .87¢ from underwriters per listener-hour. All other program services generated only .08¢







On the income graphs, the black portion of each bar shows listener income, the shaded portion shows underwriting income, and the white portion shows matching income.

to .27¢ from underwriters for the same reach and service.

Of course, some underwriters find certain programs more desirable than others; however, the differences in income per listener-hour clearly identify targets of opportunity for the station's development staff.

Summary

This analysis of direct programming revenues and expenses informs station decision makers by showing the performance of programs and formats across a variety of measures. Some measures are strictly financial, while others provide insights into the programming's public service — listener satisfaction with and use of the station's programming.

The comparisons made in the programming-only analysis described here are strictly relative — that is, they can be made only among the formats and programs broadcast on the station. As seen in this example, however, such comparisons are very useful for decision making. Fully allocated analysis allows these relative comparisons also, and adds the ability to see true breakeven points for each program and format.

Finally, this case study, like any programming economics analysis, reflects a number of judgment calls by CPR's management regarding the allocation of income and costs.

On the cost side, for example, CPR had to decide how to apportion its NPR dues across the programming it used. During the first part of the period under analysis, NPR programming was offered for a single fee. During the second part, it was offered in several streams with prices for each.

With respect to income, CPR elected to include only that portion of CPB funding that was earned by highly specific program income (in-kind donations of musicians' fees) and not the balance that was earned by listener income and underwriting.

5.
NATIONAL PROGRAMMING

By Richard H. Madden

Programming economics can help producers of national programming estimate the revenues they might earn from stations. By exploring the cost per listener-hour of programming stations now acquire, producers can estimate what stations might pay for the listener-hours their programming generates. By examining the listener income their programming might earn, producers can estimate the return they can offer stations for their investment.

In the past three years, public radio stations have, collectively, become the largest source of funding for national programming. The public radio program marketplace is evolving swiftly, and producers are increasingly looking to stations for support. But in spite of these changes, and the testing of various marketing ploys and pricing structures, many producers are still at a loss about how much station revenue they might reasonably expect. Most pricing decisions have been made by some combination of system politics and educated guesswork.

Programming economics has been developed from a station perspective, highlighting revenues that a station may derive from various programming choices and the relationship of those revenues to the costs of producing or acquiring such programming. By working backwards through the model, though, the same equations become valuable tools for producers. Programming economics can establish guideposts for fees that stations might be willing to pay for programming, or, alternatively, audience use and satisfaction targets that must be reached to justify a given level of station investment.

This chapter will explore two audience-based models for estimating the revenue producers might derive from stations. The first approach is based on translating the fees stations pay for current programming to a cost per listener-hour, and then applying the resulting cost to other programs. The second approach is based on listener income per listener-hour for current programming, and is premised on station expectations for a given return on programming investments.

Cost per Listener-Hour Model

The simpler model assumes that stations are willing to invest a given sum in their product — programming — in order to obtain a given result in consumption — listener-hours.

The foundation for the model is the investment per listener-hour stations are presently making for programming already established in the marketplace. To serve as an appropriate benchmark, a program should be widely carried (to balance out market-to-market differences), with relatively stable and reliable audience and pricing numbers. Only a few programs currently meet these criteria.

This illustration uses NPR's *All Things Considered* and *Morning Edition*. They are well established, widely carried, and have stable audience numbers. A little work is required, however, to sort out the price stations pay for these programs.

In FY 1988, the fully allocated production costs of these two programs were $6,651,784 for *ATC* and $10,436,727 for *ME (Where the Money Goes*, NPR, November, 1987). The listener-hours for the two series were 477,347,000 and 715,303,030, respectively (Spring 1988 Arbitron/Public Radio Audience Profile).

The FY 1988 production costs per listener-hour for these series were therefore:

ATC: $6,651,784 / 477,347,000 LH = 1.4¢/LH
ME: $10,436,727 / 715,303,030 LH = 1.5¢/LH

Dividing the total costs by total listening, the average production cost of serving one listener for one hour for these major series was 1.4¢.

Stations do not pay all of NPR's production costs, though. Stations pay about 78 percent of the total costs, while grants and underwriting contribute the remaining 22 percent (based on NPR Management's October 13, 1987 memo to the NPR Finance Committee, indicating non-distribution member dues of $16.9 million and total non-distribution expenses of $21.8 million).

Subtracting the grants and underwriting contribution yields a cost to the stations of 1.1¢ per listener per hour for these services (78 percent of 1.4¢).

Given that *All Things Considered* and *Morning Edition* are two of the most valuable programs available to stations and their audiences, the operating assumption for this model is that stations would be unlikely to invest more than 1.1¢ per listener-hour for any other series.

If one accepts 1.1¢ per listener per hour as a suitable benchmark, potential station revenue for other projects in the marketplace can be estimated by multiplying 1.1¢ times the project's listener-hours.

Table 51 lists the potential income that might be derived from stations for several CPB-funded projects using this approach. It also indicates the percent of total production costs such amounts represent. The table is based on 1988 Spring Quarter audience data provided by Arbitron through the Radio Research Consortium.

Table 51

Potential Station Income for Selected Programs (Based on Cost per Listener-Hour)

	Amount	% of Budget
Fresh Air	$372,601	34
Good Evening	315,515	27
High Performance	90,548	19
Mountain Stage	81,453	16
Performance Today	476,419	35
Soundprint	73,788	18

In other words, for *Fresh Air*, stations might invest up to $372,601 (33,872,800 listener-hours x 1.1¢/LH). That amount is 34 percent of *Fresh Air* production costs ($372,601 / $1,084,700).

Viewed another way, for *Fresh Air* to generate, say, 70 percent of its budget from station fees, it would need to convince stations to pay a higher cost per listener-hour than they now pay for *All Things Considered* and *Morning Edition*. Alternatively, *Fresh Air* would need to double its listener-hours by some combination of increased carriage or increased audience.

Return Model

The cost-per-listener-hour model outlined above encourages program pricing based on listeners' *use* of programming. While this is a critical factor, it may not fully reflect the *value* that listeners — and, in turn, stations — assign to such programming. Programming economics provides the tools that producers need to complement measures of use with an appraisal of programming's importance to those who listen.

As the analysis in Chapter 2 demonstrates, listener income per listener-hour is an excellent gauge of listener satisfaction with public radio programming. Programs and formats are not the same in their capacity to generate a sense of importance for listeners, and to generate listener income for stations.

A second approach to estimating potential station revenue for a national program therefore incorporates this notion of listener satisfaction and is keyed to the listener income a program generates.

Table 52 presents the listener income per listener-hour assigned to various public radio programs and programming under the programming economics system. For a discussion of how these numbers were developed, see
page 6.

Prairie Home Companion tops this list at 1.58¢ per listener-hour; programming distributed by Parkway brings up the rear at .69¢ per listener-hour. The average for all public radio programming is .99¢ per listener-hour.

Table 52

Listener Income per Listener-Hour (in cents)

Prairie Home	1.58	Classical (Total)	.96
ATC (Weekdays)	1.19	Classical (Local)	.95
APR Distributed	1.19	*ATC* (Weekends)	.94
Morning Edition	1.18	*Weekend Edition*	.92
NPR News Mags	1.16	Children's	.87
ATC (Total)	1.16	Seaway Distrib.	.84
Information	1.10	Drama	.80
Classical (NPS)	1.10	NPR-DSAP	.80
Opera	1.08	Specialized Aud.	.79
EPS Distributed	1.04	Instruction	.75
		Jazz	.74
All Prg. Average	**.99**	Parkway Distrib.	.69

Most programming falls in a range that extends about 20 percent above and below the .99¢ per listener-hour average. For setting benchmarks, it might be appropriate to consider 1.2¢ of listener income per listener-hour the high end, and .8¢ per listener-hour the low end.

This range can be used to predict the potential station revenue for a given program. If a program's importance to its listeners is on a par with weekday *All Things Considered*, it will be at the higher end of the bracket. Similarly, if the programming's importance is more in line with specialized audience programming (as a group), it will be at the lower end of the bracket. Table 53 illustrates the range — again assuming stations would be willing to pay on a break-even basis with respect to listener income.

Table 53

Potential Station Income for Selected Programs (Based on Listener Income per Listener-Hour)

	Low (.8¢/LH)	High (1.2¢/LH)
Fresh Air	$270,982	$406,474
Good Evening	229,466	344,198
High Performance	65,853	98,779
Mountain Stage	59,238	88,858
Performance Today	346,486	519,730
Soundprint	53,664	80,496

This table underscores the importance of listener satisfaction. A producer's prospects for revenue from stations is clearly tied to the extent to which programming not only generates an audience, but connects with that audience in a special way.

The final step in this model is to ask how closely stations will match their payments for programming to the return such programming generates in listener income. Stations and producers alike must consider a host of additional factors.

Listener income is not the only return a station may receive from a programming investment — underwriting or foundation support associated with the local broadcast are two other potential sources of income. In addition, some income characterized as general support may be driven, at least in part, by particular programming acquisitions.

On the other side of the ledger, the fee a station pays to the producer is not its only cost of presenting the program; stations might consider the costs associated with promoting and presenting the program, as well as some share of the station's overhead.

More broadly, stations make their individual program acquisition decisions in the context of overall operations and the need to develop a budget that ultimately balances.

One line of thought is that stations will demand an overall positive return on their national investments because they need a surplus from national programming to pay for local costs. Conversely, it can be argued that stations will accept a loss on national programming in order to fulfill their missions, and will make up the difference with funds from their National Program Production and Acquisition Grants, Community Service Grants, and various local revenue sources.

In sum, targeting programming's potential return in listener income is only a starting point for pricing by producers.

Ramifications

The two pricing models outlined in this chapter demonstrate how program producers can begin to integrate audience-based calculations into their pricing policies. The fundamental imperative of both models is obvious: as listener-hours increase, the amount that can be generated from stations increases. The second model overlays a qualitative factor: as programming increases in importance to a station's listeners, it increases in value to the station itself.

While these approaches are consistent with public radio's increasing use of market-type mechanisms to allocate programming resources, they represent a clear departure from current program pricing policies. If producers were to begin using these audience-based calculations as the sole basis for their marketing and sales, there would be basic changes in some of the underlying dynamics of public radio's national programming environment.

It is important to understand, however, that there are two distinct notions of program pricing. The first concerns the *aggregate revenue* a producer might expect to earn from stations — these are the figures explored above. The second concerns the *specific price* a producer might charge a particular station.

Programming economics analysis offers powerful guideposts for placing an overall value on a program's contribution to the public radio system, in listener-hours and listener (and underwriting) income. This value translates to expectations about overall resources the system might, in turn, provide to the producer.

When it comes to setting prices for individual stations, however, a host of other factors intrude. Because public radio remains a heavily subsidized enterprise, stations' ability to pay for programming only partially reflects income associated with such programming. Further, stations vary in their ability to capture fully the potential a program may have in their market.

Consequently, programming economics will most likely be only one of several elements that drive the pricing equation.

Even as but one of several factors, however, the introduction of programming economics into program pricing will stimulate change. Stations in larger markets would be likely to bear a greater share of programming costs than is now the case; stations in smaller markets would pay less. Similarly, carriage and scheduling decisions by major market stations would be more critical to the viability of many programs. Programming power would be more concentrated.

On the production side of the equation, producers would have a new framework for evaluating prospective increases in production costs and whether such increases can be successfully passed along to stations. If current station charges for a program are well below the value returned to the stations, for example, the producer can probably raise prices with relatively little impact on carriage. Similarly, if an increase in production costs is likely to result in an increase in audience, or an increase in listener income per listener-hour, the producer may be able to recoup the added investment. Indeed, programming economics can help producers identify how much of an increase in audience may be necessary to justify a given increase in cost.

Finally, while this chapter has been written from the producer's perspective, the fundamental relationships are useful to all who participate in public radio's national programming marketplace. Just as producers can define benchmarks for what they might charge, stations can define similar targets for what they might pay.

The greatest strength of audience-based program pricing is the inherent emphasis it gives to programming that is used by and of significance to listeners — two critical components of public radio's public service. The greatest weakness of this approach is that it highlights the very high cost per listener of programming that attends to inherently small audiences, such as people in rural areas or people who share a specialized interest — audiences that public broadcasters may feel a special responsibility to serve.