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Economic and Fiscal Impacts of a Retirement/Recreation Community: A Study of Tellico Village, Tennessee

Paul B. Siegel and Frank O. Leuthold*

Abstract

Retirement/recreation communities (RRCs) have been promoted as a way for some rural regions to develop their economies. RRCs can have substantial economic impacts (changes in employment and income) and fiscal impacts (changes in local government revenues and costs) on rural communities. Because the magnitude and direction of these impacts are site-specific, assessments of RRCs as a rural development strategy should consider both the economic and fiscal impacts for a given region. This paper presents a case study of the economic and fiscal impacts of Tellico Village on Loudon County, Tennessee.

Key words: Retirement community, economic and fiscal impacts, rural development.

Introduction

The 1980s were difficult for many rural regions in the United States as evidenced by declining employment and income, and increased out-migration. In contrast, rural regions attractive for recreation, retirement, and related activities tended to attract new residents and jobs during the 1980s (McGranahan). Accordingly, industrial recruitment efforts by many rural regions have focused on enterprises that cater to recreationists or retirees (Bergstrom et al.). Such enterprises can be viewed as a type of *light industry* (Bergstrom et al., p.69; Kahley, p.29).

In-migration of retirees has been promoted as a way for some rural regions to develop their economies (Summers and Hirschl; Kahley; Schneider and Green; Glasgow; Glasgow and Reeder; Reeder and Glasgow; Haas and Serow; Hoppe; Sastry; Reeder et al.). In-migrating retirees may move into vacant housing, build new homes in existing residential neighborhoods, or be attracted to

a planned residential development for retirees (Jones). Some planned residential developments for retirees are continuing care retirement communities that provide special health care for older retirees. A new type of planned residential development that attracts both retirees and recreationists is called a retirement/recreation community (RRC). RRCs provide permanent and temporary residents with a resort setting. RRCs specifically target retirees, but also attract younger families for vacations, second homes, and permanent residences.

RRCs generate new economic activity through the construction of infrastructure and homes, lot and home sales, administration, operation and maintenance of the community, and expenditures by residents and visitors. In addition, RRCs generate fiscal impacts. For local governments the fiscal benefits received from property and/or sales taxes and costs for infrastructure and services may constitute a large share of operating and capital budgets, particularly

*The authors are assistant professor and professor from the Department of Agricultural Economics and Rural Sociology, The University of Tennessee, Knoxville, TN. 37901-1071

in sparsely populated rural regions. Therefore, assessments of the pros and cons of RRCs as a rural development strategy should consider both economic impacts (changes in income and employment) and fiscal impacts (changes in local government revenues and costs) for a given region.

Past studies of the impacts of in-migrating retirees (e.g., Summers and Hirschl; Kahley; Schneider and Green; Glasgow; Glasgow and Reeder; Reeder and Glasgow; Haas and Serow; Hoppe; Sastry; Reeder et al.) tend to: 1) provide descriptive and speculative information rather than detailed empirical analysis, 2) focus on economic impacts and ignore fiscal impacts, and/or 3) adopt a state versus local level of analysis. Analysis at a state-wide level of aggregation masks the reality that RRCs are often the object of industrial targeting and recruitment activities by local governments.

There is no single answer to the question: What are the economic and fiscal impacts of an RRC? Since the magnitude and direction of these impacts are site-specific, assessments of RRCs as a rural development strategy should consider both the economic and fiscal impacts for a given region. This report presents a case study of the economic and fiscal impacts of Tellico Village on Loudon County, Tennessee.¹ The impact analysis presented in this paper should provide a foundation for similar undertakings in other regions. The results, however, are site-specific.

Economic and Fiscal Impacts of an RRC - An Overview

The majority of RRCs are located in rural areas in the South. Most RRC residents in the South are retirees who migrated from urban areas in the North, attracted by milder climate, less expensive housing, lower taxes, less congestion, and plentiful lakes, coastlines, and mountains (Kahley; Haas and Serow; Sastry). The typical amenity-seeking retiree is married, well educated, newly retired, in good health, and has ample financial resources (Glasgow; Sastry).

An RRC stimulates new economic and fiscal activity in a given region when it attracts new spending by in-migrants (and visitors) from other regions. Retirees residing in an RRC receive

income from outside the region in the form of social security payments, pensions, annuities, etc. Visitors to an RRC also bring in dollars from outside the region. The spending by retirees and visitors flows through the regional economy as purchases of goods and services from firms and individuals located in the region. The infusion of external funds into the local economy is a form of exports. Thus, an economic base model can be used to quantify the impacts of an RRC on a local economy (Haas and Serow; Sastry).²

Economic impacts of an RRC can be calculated by measuring the flow of payments for goods and services through the regional economy. Fiscal impacts can be calculated by measuring the flow of sales and property taxes to local governments and the flow of local services that are provided to residents of the RRC. The flows of payments for private and public goods and services generate income and employment for the region's residents. This income and employment creates a ripple effect through the regional economy when the income is spent, in turn, on other private and public goods and services and sales and property taxes are collected. Thus, the economic and fiscal impacts are *multiplied* by additional rounds of spending and tax collection.

The economic and fiscal impacts of an RRC depend, to a large extent, on the amount of new spending and taxes captured by the region and *not leaked* to other regions. Spending and taxes which flow outside the region are not counted when measuring the local economic and fiscal impacts of an RRC. Spending and taxes captured by other regions are not to be ignored, but they do not directly influence income and employment levels in a local economy or the collection of taxes and provision of local services. Clearly, the unit of analysis (e.g., county, state or nation) will affect the measurement of economic and fiscal impacts.

Past studies on impacts of in-migrating retirees focus attention on resulting employment opportunities, both the quantity and quality of newly created jobs. Many studies claim that most of the jobs are for retail and service-related activities that tend to pay lower wages than jobs in manufacturing or agriculture (Reeder and Glasgow; Haas and Serow; Reeder et al.). But, any rural development

strategy that depends on spending by households, such as recreation and tourism, is subject to this criticism (Hoppe). In fact, household spending by residents of an RRC generates a wide range of employment opportunities, from low- to high-paying jobs (Sastry). The problem facing many rural regions is the inability to capture many of the expenditures by households (and other RRC-related economic activities) because of their limited economic base (Hoppe; Reeder et al.). The ability (or inability) to attract new businesses (and the type of businesses attracted) will be a major determinant in the economic and fiscal impact of an RRC over time (Summers and Hirschl).

Similarly, past studies have speculated about possible negative fiscal impacts of in-migrating retirees, such as increased local government costs for infrastructure and utilities and for health care, and decreased revenues for schools and roads (Kahley; Glasgow and Reeder; Reeder and Glasgow; Reeder et al.). Local governments, however, face little in the way of additional health costs for retirees (Crown; Glasgow and Reeder; Reeder et al.). Infrastructure and utilities costs depend on the utilization of existing capacity. Some rural regions have considerable unused capacity, thus new residents can actually reduce costs for local residents (Reeder et al.). Some studies have argued that in-migrating retirees might vote against funding for education and roads, which can be a threat to the existing population because retirees tend to be disproportionately politically active (Reeder and Glasgow). However, in-migrating retirees can increase the overall tax base, and often are supporters of increased funding for schools (Reeder and Glasgow; Reeder et al.). In addition, in-migrating retirees often perform volunteer duties that improve the level of health and education services (Summers and Hirschl; Smith et al.; Reeder et al.).

Background Information on Tellico Village and Loudon County

Tellico Village is located along the shoreline of Tellico Lake, about 25 miles from Knoxville, Tennessee. Tellico Lake was created by Tellico Dam, which was built by the Tennessee Valley Authority in the late 1970s. Tellico Dam and Lake were expected to provide new economic development possibilities for industrial and

recreation-based enterprises (Randall, Chapter 22). The Tellico Reservoir Development Agency (TRDA) was established to manage and coordinate development efforts. In late 1985, TRDA selected Arkansas-based Cooper Communities, Inc. (CCI) to develop about 4,600 acres of shoreline property in Loudon County. Construction began in early 1986. CCI built the infrastructure, including roads, water systems, sewage systems, recreational facilities, and most of the homes.

CCI created the Tellico Village Property Owners' Association (POA) to operate and maintain the infrastructure, recreational facilities (e.g., golf course, yacht club, recreation center) and other public services at Tellico Village.³ The POA also adopts and enforces building regulations, issues building permits, and collects and spends revenues, much like a municipality. The POA's budget is financed by monthly property assessment fees collected from all resident and non-resident property owners. A Homeowners Association (HOA) was established in 1989.

In 1990, Loudon County had a population of 31,255 (Bureau of Census). Loudon County's largest incorporated cities Lenoir City (population 6,147) and Loudon (population 4,026) are located 6 miles and 11 miles from Tellico Village, respectively. Tellico Village's 800 residents accounted for 2.6 percent of Loudon County's population in 1990. By mid-1992, there were about 4,000 property lot owners, 575 homes, and an estimated 1,150 permanent residents. CCI and the POA expect Tellico Village's population to grow by about 200 persons per year from 1992 to 1996. The political implications of Tellico Village's population growth have already attracted attention from Loudon County officials. In 1992 the Loudon County Commission redrew district lines so that Tellico Village would be served by a single-member district rather than a three-member commission district on the nine-member commission.

The major economic activity in Loudon County is manufacturing. In 1990, about one-fourth of the labor force was employed in manufacturing of durable and nondurable goods (Bureau of the Census). In 1990, the unemployment rate in Loudon County was 6.0 percent compared to the state-wide average of 6.4 percent (Bureau of the Census). Conversations with CCI, POA, and HOA

officials revealed that they had some difficulty in finding Loudon County residents to fill jobs at Tellico Village.

Based on 1990 Census data, the average household income of Tellico Village residents was about \$60,000. This figure was twice the Loudon County average household income of \$29,800. In Tellico Village the age structure was skewed toward older age groups. In 1990, the school age population (ages 5 to 17) in Tellico Village was 6 percent or about one-third the Loudon County distribution of 18 percent. In contrast, 55 percent of Tellico Village residents were over the age of 55 compared to 26 percent of Loudon County residents. There also were wide differences in home values, the median home value in Loudon County was \$51,000, or less than one-third of Tellico Village's median home value of \$186,500.

Commercial activity in Tellico Village is limited to a gas station, convenience store, and bank, but CCI is considering construction of a shopping center in the Village. Potential tenants include a hardware store, pharmacy, beauty shop, medical clinic, travel agency, and restaurant. Unlike some RRCs located in remote rural areas, Tellico Village is close to a major metropolitan area. Its proximity to Knoxville affects the economic and fiscal impacts of Tellico Village because it pulls residents' expenditures away from Loudon County, attracts working residents to Tellico Village who can commute to jobs outside Loudon County, and allows those living outside of Loudon County to become property owners in Tellico Village in order to use the recreational facilities.

Economic Impacts of Tellico Village on Loudon County

Analysis of economic impacts of Tellico Village on Loudon County was carried out for 1991. Economic impacts were measured in terms of full-time equivalent (FTE) employees, income, and income per job. Most of the wage, employment, income, and household expenditure data used to calculate the direct economic impacts by Tellico Village on Loudon County were provided by CCI, the POA, and a survey of residents conducted at an HOA meeting in June 1992. Additional data were gathered from Bureau of the Census and Bureau of Labor Statistics publications. The Impact Analysis

for Planning (IMPLAN) input-output model was used to calculate direct economic impacts when data were available only on nonwage expenditures, and to calculate indirect and induced economic impacts.⁴ In the economic impact analysis, attention was focused on the spatial allocation of wage and nonwage expenditures. Results of the economic impact analysis are presented in tables 1 and 2, and discussed below.

Direct Economic Impacts on Loudon County

In 1991 CCI had 41 employees in Tellico Village: 10 in supervisory jobs, 11 in technical jobs, 15 in clerical jobs, and 5 in other jobs. In addition, there were 20 sales jobs. Those in supervisory jobs had an average annual income of \$56,000, whereas technical, clerical, and other jobs averaged \$17,000 in income. Salesperson's income, which was based on commissions from lot and home sales, averaged \$51,000. Thirty-eight of these 61 jobs were held by Loudon County residents, 10 of whom were residents of Tellico Village.

Other CCI-related jobs accounted for an additional nine jobs. CCI's administrative and sales activities in 1991 led to nonwage expenditures of \$1,186,000 on purchases of goods and services, and tax payments (tax payments were excluded from the economic impact analysis). According to CCI records, about 40 percent of these purchases were made in Loudon County. In 1991, there were 3,200 overnight visits by prospective property buyers. CCI attracted prospective property buyers with vouchers for free lodging and \$100 toward purchases at Tellico Village's yacht club and golf course. In addition to expenditures within Tellico Village (included in the POA's economic impacts), some money was spent by visitors outside the Village in Loudon County, and elsewhere. Finally, in 1991, CCI spent \$680,000 on infrastructure construction (e.g., roads, water, and sewer lines). All of the construction work was subcontracted to firms located outside of Loudon County. Based on CCI records, it was estimated that 20 percent of labor used by these firms resided in Loudon County, and 10 percent of construction materials were purchased in Loudon County.

In 1991, POA had 80 employees, of which: 16 were managerial jobs, 6 were clerical jobs, 28 were full-time service jobs, and 30 were part-time

service jobs. Managerial jobs had an average income of \$27,000, while clerical and full-time service jobs averaged \$14,500. There were also five patrolmen who provided security services contracted from the Loudon County Sheriff's Office. In total the POA employed 65 FTE, of which 34 resided in Loudon County. In addition, POA's activities led to nonwage expenditures of \$1,784,000 on goods and services, taxes, depreciation, and the TRDA lease. According to POA records, 20 percent of the expenditures (taxes, depreciation, and the TRDA lease were excluded) were spent in Loudon County, mostly on items with minimal income and employment impacts.

Eighty-seven homes were constructed in Tellico Village in 1991. According to CCI Homes Division, the average construction cost per home was \$100,000, with 25 percent for labor and 75 percent for materials. About 40 percent of the laborers resided in Loudon County and 20 percent of the materials were purchased in Loudon County. It was estimated that there were 113 full-time construction jobs, of which 48 were held by Loudon County residents. Another 2 jobs in Loudon County were related to the supply of construction materials.

Of the \$60,000 average household income in Tellico Village, it was estimated that \$40,000 was spent on consumption of various goods and services. Based on household consumption budgets from Bureau of Labor Statistics and IMPLAN, and information on the spatial distribution of household consumption expenditures from the HOA survey, it was estimated that 37 percent of household expenditures were spent in Loudon County. For items such as groceries, and automotive operation and maintenance, a large share of expenditures was in Loudon County. In contrast, for items such as food eaten away from home, clothing, health-related services, and entertainment, most of the spending was in neighboring Knox County. It was estimated that household expenditures by Tellico Village residents generated 40 jobs in Loudon County with an average income of \$16,000. Many of these jobs were in retail sales, thus the relatively low average income per job.

Summary of Direct Economic Impacts on Loudon County

The direct economic impacts of Tellico Village on Loudon County in 1991 are presented in table 1. About \$34.7 million of direct expenditures were generated by economic activity associated with Tellico Village. Of the \$34.7 million, only \$11.7 million (34 percent of direct expenditures) was spent in Loudon County. In turn, this spending had a direct income impact in Loudon County of \$3.7 million (11 percent of direct expenditures), and a direct employment impact of 172 jobs with an average income of \$21,300 per job (compared to the county-wide average of about \$20,000 per job). Excluding the 38 CCI administration and sales employees, the average income per job was estimated to be \$17,800. Thus, many of the higher paying jobs are linked to marketing of Tellico Village lots and homes (CCI's administration and sales), jobs that will gradually be phased out.

Total Economic Impacts of Tellico Village on Loudon County

Total economic impacts are the sum of direct, indirect, and induced impacts. Using IMPLAN, the indirect and induced economic impacts were estimated to be 40 jobs and \$664,000 in income, with an average income of \$16,600. The low average income per job reflects the high proportion of lower paying retail sales jobs. Adding indirect and induced impacts to direct impacts, the total economic impact of Tellico Village on Loudon County in 1991 was estimated to be 212 FTE jobs and \$4,325,320 in income, with an average income of \$20,400 (see table 2). While this number of FTE jobs seems large, it represents a modest economic impact on Loudon County, which had about 15,000 employed persons in 1991.⁵ Clearly the total economic impacts of Tellico Village on Loudon County plus the surrounding area were considerably larger than just on Loudon County. It is possible that some of this economic activity *leaking* to neighboring counties could be captured by Loudon County in the future.

Table 1. Direct Economic Impacts of Tellico Village on Loudon County in 1991

Item	Total expenditures (\$)	Spent in Loudon County (\$)	Income Impact (\$)	Employment Impact (# FTE Jobs)	Average Income per Job (\$)
1. CCI admin. wage	2,105,000	1,278,320	1,278,320	38	33,640
2. CCI admin. nonwage	1,186,000	474,200	38,000	2	19,000
3. CCI promotional visits	990,000	204,700	90,000	5	18,000
4. CCI infrastructure	680,000	85,000	36,000	2	18,000
5. POA admin. wage	1,194,000	640,000	612,000	34	18,000
6. POA admin. nonwage	1,784,000	202,700	19,000	1	19,000
7. Home construction	8,721,000	2,183,400	948,000	50	18,960
8. Household expenditures	18,000,000	6,660,000	640,000	40	16,000
Total	34,660,000	11,728,320	3,661,320	172	21,300

Table 2. Total Economic Impacts of Tellico Village on Loudon County in 1991

Item	Income Impact (\$)	Employment Impact (# FTE Jobs)	Average Income per Job (\$)
1. CCI admin. wage	1,350,320	42.5	31,770
2. CCI admin. nonwage	47,000	2.5	18,800
3. CCI promotional visits	106,000	6.0	17,700
4. CCI infrastructure	54,000	3.0	18,000
5. POA admin. wage	652,000	36.5	17,800
6. POA admin. nonwage	28,000	1.5	18,700
7. Home construction	1,128,000	60.0	18,800
8. Household expenditures	960,000	60.0	16,000
Total	4,325,320	212.0	20,400

Fiscal Impacts of Tellico Village on Loudon County

Loudon County is the primary local government unit receiving funds from Tellico Village residents and associated economic activities, and the primary local government extending services to Tellico Village.⁶ To analyze fiscal impacts of Tellico Village on Loudon County requires an accounting of tax revenues received by local governments in Loudon County, as well as costs of services they provide to Tellico Village residents. A comparison of revenues and costs was used to ascertain Tellico Village's net fiscal impact on Loudon County local governments. Fiscal impacts of Tellico Village on adjacent counties or the state were not considered. Official reports such as *Annual Tax Aggregate Report of Tennessee* and *Tennessee County Tax Statistics* were used to provide information on tax revenues and local service costs, as well as information provided by Loudon County officials on property assessments, taxes, and county budgets. Some information was also provided by CCI, the POA, and the HOA.

The analysis of fiscal impacts was based on estimated local revenues and service costs during the 1992 fiscal year.⁷ Direct, secondary, and total fiscal impacts on Loudon County local governments were calculated. Direct fiscal impacts were defined as those generated by Tellico Village property and residents, CCI, and the POA. Secondary fiscal impacts were defined as those generated by Loudon County residents who were non-Tellico Village residents and employed in economic activities associated with Tellico Village. Total fiscal impacts were defined as the sum of direct and secondary fiscal impacts.

Tax Revenues Generated by Tellico Village

The State of Tennessee does not tax individuals' income. To generate revenue, Tennessee has a relatively high sales tax rate which is extensive in coverage. In addition, there is a local sales tax in Loudon County. Local governments in Tennessee receive state funds for education, roads, and some jail costs. Distribution of these revenues to local governments are not, however, tied to the place that the funds are generated. In the 1991 fiscal year Loudon County's

revenues from state transfers totaled 39 percent of total revenues, and federal transfers contributed another 3 percent. Locally generated revenues accounted for the remaining 58 percent of Loudon County's revenues. Property taxes accounted for about 80 percent of locally generated revenues (sales taxes accounted for about 8 percent and other sources for the remaining 12 percent). Thus, property taxes are the major source of revenue for Loudon County that is under its control.

Before the sale by TRDA to CCI, Loudon County did not receive tax payments on property occupied by Tellico Village. In 1987, \$172,000 of property tax was payable on Tellico Village property. The property tax payable increased to \$370,000 in 1988, \$538,000 in 1989, \$680,000 in 1990, and \$844,000 in 1991. The property tax payable by Tellico Village in 1992 was estimated to be \$1,021,000. In 1992, Tellico Village's share of Loudon County's property taxes was estimated to be about 12 percent, whereas its share of the county's population was about 3.5 percent.

Additional local revenue was obtained from taxable expenditures within Loudon County subject to local sales taxes and hotel taxes. These contributions from taxable expenditures were small relative to the revenues obtained from property tax payments. In fact, property tax revenue provided about 90 percent of the \$1,145,000 in local tax revenues generated by Tellico Village (see table 3).

Cost of Local Services for Tellico Village Residents

In 1992, Loudon County did not incur additional costs to provide infrastructure for Tellico Village. CCI builds roads in Tellico Village, TRDA owns them, and POA leases and maintains them. POA's maintenance of Tellico Village's road system may be a subject of negotiation with Loudon County officials in the future because Village residents would like the County to assume greater financial responsibility for road maintenance. Future expenditures on road maintenance will be significant. The POA has budgeted \$250,000 for road resurfacing for the year 1997.⁸ CCI builds all water and sewage systems within Tellico Village and then hands over ownership to the POA, which maintains them and charges residents based on water usage. Water is supplied by Tellico Area

Table 3. Direct, Secondary, and Total Fiscal Impacts of Tellico Village on Loudon County in 1992

Item	Direct Impacts (\$)	Secondary Impacts (\$)	Total Impacts (\$)
Revenues			
Property Taxes	1,021,000	73,900	1,094,900
Sales Taxes	124,800	28,500	153,300
Total Revenues	1,145,800	102,400	1,248,200
Costs			
School (\$1,560/child)	87,400	101,300	188,700
Nonschool (prorated)	179,000	62,400	241,400
Total Costs	266,400	163,700	430,100
Net Surplus (Deficit)	879,400	(61,300)	818,100

Service System (TASS), and sewage is treated by a wastewater treatment plant operated by Loudon Utility Board (LUB). According to CCI, TASS and LUB have agreed to provide for present and future water and sewage needs. Electrical service is provided by LUB. CCI provides the primary electricity distribution system and LUB provides service lines for house service. Electrical lines are owned, operated, and maintained by LUB, and residents are charged based on usage. Telephone service is provided by South Central Bell. Telephone lines are owned, operated and maintained by South Central Bell, and residents pay for service based on usage.

There are, however, some services provided from local tax funds for Tellico Village residents. Tellico Village is served by the Loudon County school system. Tellico Village residents directly support the Loudon County school district through payment of Loudon County property taxes. According to CCI and POA officials, 56 children from Tellico Village attended public schools in the Loudon County school system in 1992. Based on Loudon County's 1991 budget, it was estimated that an average of \$1,560 was spent per school child from local revenue sources in 1992. It was estimated that Tellico Village residents' children in the Loudon County school system cost \$87,400 in local revenue for the 1992 fiscal year.

Other Loudon County services are provided to Tellico Village residents, including county government personnel, county building maintenance, court system, sheriff patrol and jail expenses, industrial development, health and welfare, public safety, fire and ambulance services, library services, etc.⁹ Local costs for these services, which were prorated based on the population of Tellico Village as a percent of the total Loudon County population, were estimated to be \$179,000.

Summary of Direct Fiscal Impacts on Loudon County

Total expenditures for school and nonschool services from Loudon County local governments that were funded by local revenue and provided to Tellico Village residents in 1992 were estimated to be \$266,400. In contrast, an estimated \$1,145,800 of revenues were provided by Tellico Village property, residents, and associated economic activities in 1992 for Loudon County local governments. Thus, revenues exceeded service costs by \$879,400 for the 1992 budget year.

Secondary Fiscal Impacts

The secondary fiscal impact of local revenue for Loudon County local governments was estimated for the labor force generated by economic

activities associated with Tellico Village. Employees residing in Tellico Village and those living outside Loudon County were excluded from this analysis. Information on the allocation of jobs generated by Tellico Village to existing residents or in-migrants was required to measure and interpret the secondary fiscal impacts. In the absence of actual data, it was assumed that new jobs in Loudon County were taken by in-migrants.¹⁰

It was assumed that in-migrant workers were members of households that mirrored Loudon County's average socioeconomic characteristics with respect to income, home value, and age distribution. It was estimated that \$73,900 in property taxes and \$28,500 in local sales taxes were generated by these households. In addition, it was estimated that there would be another 65 children in the Loudon County school system. About \$101,300 would be required in local funds for the Loudon County school systems and \$62,400 required for nonschool services, or \$163,700 in total. The estimated \$163,700 in costs for services provided by Loudon County exceeded the estimated \$102,400 of tax revenues for a net fiscal cost of \$61,300 to Loudon County local governments.

Total Fiscal Impacts of Tellico Village

In 1992 Tellico Village property, residents, and associated economic activities provided local revenue to Loudon County governments that substantially exceeded the costs of providing local services. In contrast, the fiscal impact of new employment generated by Tellico Village (i.e., the secondary fiscal impact) created a negative balance because the estimated costs of services from local governments of Loudon County exceeded the estimated property tax and local sales tax produced by these persons. Total fiscal impacts (direct plus secondary impacts) of Tellico Village on Loudon County local governments, however, were substantially positive. The total positive fiscal impact of Tellico Village on Loudon County local governments was estimated to be \$818,100, about two-thirds of total revenues. Thus, the positive direct fiscal impacts far outweighed the negative secondary fiscal impacts and produced a high positive total fiscal impact for Loudon County. Loudon County officials have cited Tellico Village

as a major reason for the county maintaining a constant property tax rate and local sales tax rate since 1986.¹¹

Summary of Results

In 1992, the fiscal impacts of Tellico Village were quite significant from the perspective of Loudon County local governments. The proportion of Loudon County property taxes contributed by Tellico Village was estimated to be 12 percent in 1992, whereas Village residents comprised about 3.5 percent of the county's population. The cost of providing local services to Tellico Village was only about one-third of the revenues contributed to Loudon County local governments, reflecting a large positive direct fiscal impact. The positive direct fiscal impact was large because: 1) there are many high-valued lots without homes in Tellico Village that required limited, if any, local services; 2) the mean value of homes in Tellico Village is substantially higher than the mean value of homes in Loudon County; and 3) there are relatively few school-aged children residing in Tellico Village. In contrast, the secondary fiscal impacts generated by Tellico Village activities were relatively small and negative. Thus, total fiscal impacts (direct plus secondary fiscal impacts) remained overwhelmingly positive.

The economic impacts of Tellico Village on Loudon County were relatively modest. One reason for the modest economic impacts was the leakage of economic activity generated by Tellico Village, mostly to neighboring Knox County. Unlike some RRCs located in remote rural areas, Tellico Village is close to a major metropolitan area. The proximity to Knoxville pulls expenditures away from Loudon County. Economic development specialists often advocate policies that lead to reductions of leakages as a means towards economic growth and development. Some of the economic activity *leaking* to neighboring counties may potentially be captured by Loudon County if new business firms are attracted by Loudon County. However, this analysis indicates that policies that lead to positive economic impacts may lead to negative fiscal impacts. That is, depending on the types of jobs created, the positive economic impacts with new jobs and subsequent in-migration of residents serving Tellico Village may have negative

fiscal impacts if in-migrating employees' socioeconomic characteristics mirror existing Loudon County averages.

The types of employees and firms attracted to Loudon County in the future will determine whether positive economic impacts produce positive or negative fiscal impacts. CCI is planning to build a shopping center in Tellico Village, which may shift some consumer expenditures from Knox County to Loudon County or merely redistribute expenditures within Loudon County. For example, a medical clinic or other professional offices may shift expenditures from Knox County and attract high-paying employees, a restaurant might shift expenditures from Knox County and attract low paying jobs, and a grocery store might attract low-paying jobs and primarily redistribute expenditures within Loudon County.

Limitations and Suggestions for Future Research

This analysis has several limitations, which lead to suggestions for future research. First, although this article emphasizes the need to expand impact analyses of RRCs to include both economic and fiscal impacts, local governments may also be interested in the social, political, and environmental impacts (Reeder et al.). Information on other impacts may influence the assessment of pros and cons of establishing an RRC.

Second, the economic impact analysis was carried out using an input-output model based on the economic structure of Loudon County in 1985. An assumption of the economic impact analysis is that Loudon County's underlying economic structure did not undergo changes in order to provide goods and services to Tellico Village, which was opened in 1986. It is possible, and in fact probable, that new business enterprises have sprung up in Loudon County to meet the new demands created by new economic activity associated with Tellico Village (Summers and Hirschl). In addition, for the fiscal impact analysis, it was assumed new jobs were taken by in-migrants with socioeconomic characteristics that mirrored the Loudon County average in 1990. Current data on the economic structure of Loudon County and information on

whether existing residents or in-migrants have taken newly created jobs is required for a more accurate analysis of the economic and fiscal impacts of Tellico Village.

Third, this article presents a static analysis of an extremely dynamic phenomena (Crown; Kahley; Glasgow; Glasgow and Reeder; Hoppe). The situation is dynamic and numerous issues will influence the economic and fiscal impacts of Tellico Village in the future. Indeed, a dynamic analysis of expected economic and fiscal impacts is required for local governments to improve industrial targeting and recruitment activities in pursuit of RRCs. The short-run positive net fiscal impacts of an RRC can change radically over time. Decisions on who pays for the construction, operation and maintenance of infrastructure, particularly roads, can shift the fiscal balance for or against an RRC. Also, some studies speculate that retiree-based economic development might have a stabilizing economic and fiscal impact because most of in-migrating retirees's income is not dependent on local business cycles (Smith et al. Kahley; Reeder and Glasgow; Hoppe; Reeder et al.). This is an empirical issue that needs to be tested.

Fourth, improved economic and fiscal impacts models are required to measure the complex interactions that result from RRCs in a more accurate manner. For example, what was the impact of the RRC on labor markets and housing costs? Improved economic and fiscal impact models need to incorporate the feedbacks, uncertainty, and dynamics existing between economic and fiscal parameters (Halstead et al.). Providing local governments with improved analytical tools is critical for rural communities assessing the impacts of RRCs.

Fifth, there is a need to consider the opportunity cost of using the 4,600 acres of lakefront property for the development of Tellico Village versus alternative rural development strategies. Green and Schneider have outlined and compared some of the impacts of in-migrating retirees versus manufacturing. Since impacts of in-migrating retirees and the opportunity costs of alternative strategies will vary from region to region, detailed region-specific analyses that incorporate the four points listed above are required for such comparisons.

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Endnotes

1. This paper is drawn from a detailed economic and fiscal analysis of Tellico Village. Details on data and assumptions used for the analysis are available from the authors.
2. An input-output model is an economic base model that measures economic impacts based on the flow of purchases and sales within a given region. Input-output models are the most frequently used analytical framework for economic impact analysis (Miller and Blair; Shaffer; Wagner et al.). Economic impacts can be divided into: 1) direct - payments received by producers for providing goods and services, 2) indirect - expenditures on factors of production required to produce goods and services, and 3) induced - income received by individuals during the direct and indirect impacts and, in turn, spent on other goods and services. Total economic impacts are the sum of these direct, indirect, and induced impacts.
3. As part of the purchase agreement CCI deeded to TRDA all land allocated for recreational facilities, roads, and other common properties. Ownership of CCI-built facilities on this land is, in turn, transferred to the POA. A 99-year lease exists between the POA and TRDA for land and improvements. In 1991, POA paid TRDA \$208,000 for the annual lease. The POA does not pay property taxes to Loudon County on land leased from TRDA or facilities built on this land.

4. The standard formulation of an input-output model for n sectors is:

$$X = (I - A)^{-1}F, \quad (1)$$

where X is a $nx1$ vector of gross output, $(I - A)^{-1}$ is a nxn matrix of *multipliers* which reflect a region's production technologies, and F is a $nx1$ vector of final demand. Assuming constant returns to scale and fixed prices, it is possible to calculate employment and income impacts using income and employment coefficients which map a linear correspondence to sectoral gross output:

$$\Delta Y_i = WS\Delta X_i = WS(I - A)^{-1}\Delta F_i, \quad (3)$$

and

$$\Delta L_i = S\Delta X_i = S(I - A)^{-1}\Delta F_i, \quad (4)$$

where Y and L are $nx1$ vectors of sectoral income and employment, respectively, W is a nxn diagonal matrix of sectoral income-output (i.e., wage) coefficients, and S is a nxn matrix of sectoral employment-output (i.e., labor) coefficients. Direct economic impacts can be measured either by introducing wage plus nonwage expenditures directly to the appropriate sectors to calculate changes in Y and L , or by directly obtaining wage and employment data. Indirect and induced impacts are calculated by introducing direct income and employment impacts into the input-output model so that subsequent rounds of spending can be calculated.

The U.S. Forest Service's IMPLAN input-output model was used for the economic impact analysis. The IMPLAN model follows the assumptions and notation discussed and presented above. IMPLAN's database consists of a socioeconomic database disaggregated to the county level, which allows the modelling of detailed intersectoral production and household consumption relationships. This analysis used the most recent version of IMPLAN, Version 91-09, which was based on socioeconomic data from 1985. See Bergstrom et al. and Wagner et al. for information about IMPLAN.

5. Note that full-time equivalent jobs and employed persons are not perfectly comparable units.
6. Some of the property taxes collected by Loudon County are allocated to the Lenoir City school system based on a pre-determined formula. Thus, the text refers to Loudon County local governments meaning Loudon County plus Lenoir City local governments.
7. Fiscal year (July-June) 1992 was selected for the fiscal impact analysis because it was the most recent year with available data. Similarly calendar year 1991 was selected for the economic impact analysis. It was assumed that economic impacts of Tellico Village on Loudon County in fiscal year 1992 would be, with minor adjustment, similar to calendar year 1991.
8. The future status of Tellico Parkway, an 11-mile stretch of two-lane highway that provides access to Tellico Village, is also an important issue. TVA built Tellico Parkway and TRDA maintains it. In mid-1992 TVA and TRDA offered Loudon County \$400,000 to assume ownership of an 8-mile portion of the Parkway. Loudon County has been hesitant to accept responsibility for the Parkway, which will require improvements to handle the planned growth of Tellico Village.

9. As mentioned earlier, the POA subcontracted with the Loudon County Sheriff's Office to augment regular police protection. The POA owns, maintains, and operates a fire truck that is manned by volunteers to augment fire protection provided by Loudon County's Rescue Squad. The POA subcontracted with a private firm to collect and dispose of Tellico Village's solid waste.
10. Increased demand for employment can be met by workers in the labor force working longer hours, increased labor force participation, and in-migration of workers from other regions (Sastry). For this study, the assumption about in-migrants taking newly created jobs was based on the low rate of unemployment in Loudon County and characteristics of the Loudon County labor force.
11. From 1986 and 1991 only eight of 95 Tennessee counties had neither an increase in the local sales tax rate nor an increase in the effective property tax rate (*Tennessee County Tax Statistics*).