

CHAPTER TWO

**Profile and Economic Impacts of
Arkansas Historic Rehabilitation**

INTRODUCTION AND SUMMARY

This chapter first describes the profile and magnitude of historic rehabilitation in Arkansas. The analysis is for the year 2004, which, when this study commenced, was the last year for which construction information was fully available. The chapter then considers how the direct Arkansas historic rehabilitation investment translates into total economic impacts, including multiplier effects. The results of the analysis are summarized below:

- In 2004, an estimated total \$1.25 billion was spent on rehabilitation in Arkansas: \$404.8 million on residential properties, \$624.0 million on nonresidential properties, and \$228.4 million on public properties.
- Of the \$1.25 billion spent on rehabilitation, an estimated \$62.2 million, or about 6 percent of the total, was spent on historic private properties (properties listed on or eligible for historic designation on national, state, and/or local registers of historic sites). An additional \$12.3 million of rehabilitation was spent on historic public buildings, resulting in an *estimated* \$74.5 million in total historic rehabilitation.

EXHIBIT 2.1 Estimated Total Rehabilitation and Historic Building Rehabilitation in Arkansas (2004)

Property Type	Estimated Total Rehabilitation (in \$ million)	Estimated Historic Rehabilitation (in \$ million)	Historic Rehabilitation as % of Total Rehabilitation
Private			
Residential	\$404.8	\$27.00	6.6%
Nonresidential	<u>\$624.0</u>	<u>\$35.10</u>	5.6%
Total private	\$1,028.8	\$62.10	6.0%
Public	\$228.4	<u>\$12.37</u>	5.3%
Total	\$1,257.2	\$74.57	5.9%

- The direct effects of historic rehabilitation are translated into multiplier effects, which encompass such dimensions as *jobs* (employment by place of work), *income* (total wages, salaries, and proprietor's income), *output* (value of shipments), *gross domestic product* or GDP (total wealth accumulated, referred to at the state level as gross state product or GSP), *taxes* (federal, state, and local), and *in-state wealth* (GSP less "leakage" in the form of federal taxes).
- The total economic impacts from the \$74.5 million spent in 2004 on statewide historic rehabilitation included the following: 1,876 new jobs; \$51.67 million in income; \$137.2 million in output; \$77.6 million in gross domestic product; and \$16.75 million in taxes. Arkansas garnered almost two-thirds of these economic benefits and, as a result, captured \$48.2 million in in-state wealth. The other effects were distributed outside Arkansas.

EXHIBIT 2.2
Total Economic Impacts of the Annual Arkansas
Historic Building Rehabilitation (\$74.5 Million)

	In Arkansas	Outside Arkansas	Total (U.S.)
Jobs (person years)	1,523	353	1,876
Income (\$millions)	40.9	10.7	51.7
Output (\$millions)	98.6	38.6	137.2
GDP/GSP ^a (\$millions)	60.1	17.5	77.6
Total taxes (\$millions)	15.3	1.5	16.7
Federal (\$millions)	11.9	.6	12.5
State/Local (\$millions)	3.3	.9	4.2
In-State wealth (\$millions)	48.2	—	—
(GSP minus federal taxes)			

^aGDP/GSP = Gross Domestic Product/Gross State Product.

HISTORIC REHABILITATION IN ARKANSAS

Definition of Historic Rehabilitation

For the purposes of this study, historic rehabilitation includes all “rehabilitation” that is effected in “historic” properties. “Rehabilitation” is defined as encompassing all construction work that the Census classifies as “alterations.” Not included are minor repairs or structures added to buildings (i.e., the Census categories “repairs” and “additions”). All rehabilitation is included—not just work of a historic nature (e.g., facade restoration)—as long as the rehabilitation is effected in a historic property. “Historic” is defined as a property that is designated as a national, state, or local landmark; or is located in a national, state or local historic register district; or because of age and other factors might be eligible for historic designation.

The definition of “rehabilitation” is straightforward (from the Census); however, the specification of “historic” as used in the present study bears further comment. Inclusion of landmarks listed by all levels of government—federal, state, and local—acknowledges that all of these listings are important. Including only entries on the National Register of Historic Places and omitting local landmarks would fail to incorporate the tremendous interest in preservation at the local level and the significance of local involvement, as evidenced by the numbers of landmark and historic district designations and the related rehabilitation of these resources.

Thus, our specification of historic includes only those properties already officially listed on registers, whether federal, state, or local, and properties that, because of age and other factors, *might* be eligible for historic listing. In the field of preservation, eligibility for designation is in fact a recognized status. At the federal level, a Section 106 review is triggered when federal action threatens properties both on, and eligible for, the National

Register. There is a valid reason why eligibility for listing is recognized by historic preservationists, principally that the time gap between eligibility status and official listing should not thwart the ultimate goal of protecting legitimate historic resources.

Scale of Historic Rehabilitation in Arkansas

At first glance, the task of determining the share of Arkansas rehabilitation work that is in historic stock seems easy: simply sum for all historic properties the total amount of rehabilitation and repair work that is performed. Unfortunately, there is no centralized data source for current building rehabilitation activity, nor is there one that lists historic properties in the state.

As recently as 1997, data on rehabilitation in Arkansas were collected by the Economic and Statistics Administration of the U.S. Department of Commerce. The 1997 series was published in 2000 and is only reproduced in five year increments. The next installment is expected in late 2005. Further, the latest centralized data set with information on the age of structures in Arkansas is the 1990 decennial national Census, and that too relates only to residential properties.

In addition, the Arkansas Historic Preservation Program (AHPP) has published an annual report for the Federal Fiscal Year 2004 detailing the total grants for historic preservation and the total monies invested through federal historic preservation tax incentives in the state of Arkansas.

Thus, it was within these constraints that estimates of the statewide value of rehabilitation of historic structures proceeded. The process used to estimate the extent of historic rehabilitation of buildings effected in Arkansas in 2004 is outlined below.

1. First, past (pre-1994) relationships between permits for new residential building and both new nonresidential and rehabilitation construction for each of 469 Arkansas communities were applied to 2000 data for new residential construction from the Census.
 2. The community-level incidence ratios were applied to the respective estimates of rehabilitation activity using year 2000 permits data to obtain final estimates of private historic preservation activity effected in privately owned properties.
 3. Using 1990 Census data on structure age, the *incidence of historic rehabilitation* was estimated for each Arkansas community.
 4. Annually, about \$35.6 million is invested in the historic preservation of public buildings. This estimate is derived from files of CUPR studies on historic preservation. We merely apportioned an additional proportion of all historic rehabilitation activity to construction activity at county courthouses and state buildings.
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Exhibit 2.3 below summarizes the results of the method. These results are:

- In 2000, permits valued at about \$4.3 billion were issued for new construction in Arkansas. Nearly 59.9 percent (\$2.6 billion) of this was effected in housing units.
- In addition, about \$2.1 billion was spent rehabilitating structures in Arkansas. Of this, \$480 million was spent on residential properties and \$1.6 billion on nonresidential properties. Thus, the value of residential rehabilitation construction permits issued was about 18.6 percent of its new construction counterpart. For private nonresidential construction, the value of rehabilitation construction is about 93.1 percent of its new construction counterpart.
- Of the \$2.1 billion, about \$310 million (14.8 percent) was spent on private historic properties. Most (nearly 75 percent) of the activity was on nonresidential properties.
- The estimated average incidence of rehabilitation that was historic was nearly 17 percent for residential structures and nearly 14 percent for nonresidential structures.

EXHIBIT 2.3
Estimated Total and Historic Building Rehabilitation in Arkansas (2004)

Property Type	Estimated Total New Construction (in \$ million)	Estimated Total Rehabilitation (in \$ million)	Estimated Historic Rehabilitation (in \$ million)	Historic Rehabilitation as % of Total Rehabilitation
Private				
Residential	\$3,449.5	\$404.8	\$27.0	6.6%
Nonresidential	<u>\$1,606.6</u>	<u>\$623.9</u>	<u>\$35.1</u>	5.6%
Private subtotal	\$5,106.1	\$1,028.7	\$62.1	6.0%
Public	\$898.1	\$228.4	<u>\$12.3</u>	5.3%
Total	\$6,004.2	\$1,257.1	\$74.5	5.9%

TRANSLATING THE ANNUAL ARKANSAS HISTORIC REHABILITATION INVESTMENT INTO TOTAL ECONOMIC IMPACTS

This section discusses how the *total economic impact* of the \$74.5 million of rehabilitation effected in historic properties annually is derived. First, the typical purchases for each type of property on which historic rehabilitation is taking place—single-family, multifamily, and nonresidential—are detailed by industry. The lists of typical labor, material, and service purchases for each property type are then standardized. These estimated economic “recipes” for historic renovation are then multiplied by the annual amount of such activity for each property type. The resulting vectors of historic rehabilitation volume are then applied to input-output models that calculate total economic impacts (direct, indirect, and induced) for the state of Arkansas and the nation.

“Recipes” for Historic Rehabilitation

Direct effects, or direct requirements, the first category of total economic impact, are readily identified once a project has been bid and once its costs have been calculated and summed. In theory, the best way to estimate a project’s direct requirements would be to use bid sheets that apply cost elements (i.e., labor and materials) to items specified by the project’s architects and engineers. Bid sheets would provide sufficient detail on project requirements to identify the industry that supplies the components, as well as the type of labor needed for the work. The quality of the estimates of a project’s direct requirements, in turn, determines the quality of the estimates of other categories of economic impacts. Thus, estimates demand an unusual amount of thoroughness and care. In ideal circumstances, the thoroughness extends to identifying where the direct requirements come from, as well as a very detailed specification of the supplying industry.

In prior studies, the Center for Urban Policy Research (CUPR) obtained detailed cost information on renovations effected on a variety of historic properties by

- contacting developers/sponsors active in historic preservation,
- obtaining files on historic rehabilitation projects certified for federal preservation tax credits,
- obtaining files on projects that had received public funding.

In all instances, the information obtained approached the detail of a bid sheet. Based on these sources, CUPR received information on almost 60 historic properties requiring just shy of \$100 million in recent rehabilitation. The detailed cost estimates for these projects were summed by property type—residential and nonresidential. Using information from the detailed cost estimates as well as the prior experience of the Regional Science Research Corporation in similar studies (University of Rhode Island 1993), the cost estimates by property type were converted into purchases of goods and services, including labor, by industry. This lengthy, sometimes subjective, conversion process enabled the specification required to get accurate results by industry from the preservation economic impact model. The result is an “economic recipe” of the direct requirements for historic rehabilitation by property type.

Estimating Total Economic Impacts

Total economic impacts encompass both *direct* and *multiplier* effects. The latter incorporate *indirect* and *induced* impacts. The character of the direct impacts of historic preservation is derived from the recipes noted above. The process for estimating a given project’s indirect and induced economic impacts is more roundabout. By definition, a project’s first round of indirect impact includes the purchases of any supplies and/or services that are required to produce the direct effects. Subsequent purchases of supplies and services generate other rounds of indirect impacts. The induced impacts are the

purchases that arise, in turn, from the increase in aggregate labor income of households. Aggregate labor income is defined as the sum of wages, salaries, and proprietors' income earned by workers. Both the indirect and induced economic impacts demonstrate how the demand for direct requirements reverberates through an economy.

Exhibit 2.4 details the economic impacts of the rehabilitation of historic properties. The *direct impact* component consists of purchases made specifically for the construction project. Direct impacts on the local economy are composed only of purchases from local organizations.

The *indirect impact* component consists of spending on goods and services by industries that produce the items purchased by the contractors who are preserving the property. Among his many business relationships, for example, a contractor might purchase windows from "Jerry's Home Improvement Inc." (JHI), which makes custom windows. In order to produce windows, JHI must hire craftsmen as well as contract with firms that supply glass, adhesives, paints and coatings, glazing, and wood products. JHI also hopes to make a profit for its owners/shareholders. In order to meet JHI's needs, its suppliers must also hire workers and obtain materials and specialized services. The same process is repeated for their suppliers, and so on. Thus, an extensive network of relationships is established based upon round after round after round of business transactions that emanate from a single preservation project. It is this network of transactions that describes the set of indirect impacts. Of course, a firm's net indirect contribution to the preservation activity largely depends on (1) the total value of its transactions in the network; and (2) the proximity of its business relationship(s) to the preservation contractor within the project's business network. Similar to direct impacts, local indirect impacts are composed only of indirect business transactions that occur in the local economy.

Finally, *induced impacts* are a measure of household spending. They are a tally of the expenditures made by the households of the construction workers on a preservation project, as well as the households of employees of the supplying industries.

EXHIBIT 2.4
Examples of Direct and Multiplier Effects
(Indirect and Induced Impacts) of Historic Preservation

MULTIPLIER EFFECTS		
DIRECT IMPACTS	INDIRECT IMPACTS	INDUCED IMPACTS
Purchases for: <ul style="list-style-type: none"> • Architectural design • Site preparation • Construction labor • Building materials • Machinery & tools • Finance & insurance • Inspection fees 	Purchases of: <ul style="list-style-type: none"> • Lumber & wood products • Machine components • Stone, clay, glass, & gravel • Fabricated metals • Paper products • Retail & wholesale services • Trucking & warehousing 	Household spending on: <ul style="list-style-type: none"> • Food, clothing, day care • Retail services, public transit, utilities, car(s), oil & gasoline, property & income taxes, medical services, and insurance

One means of estimating indirect and induced impacts would be to conduct a survey of the business transactions of the primary contractor. The business questionnaire for this survey would ask for the names and addresses of the contractor's suppliers; what and how much they supply; the names and addresses of the contractor's employees; and the annual payroll.

A related questionnaire would cover the household spending of the employees of the surveyed firms. It would request a characterization of each employee's household budget by detailed line items, including names and addresses of the firms or organizations from which each line item is purchased.

Both questionnaires subsequently could be used to measure indirect and induced impacts of the primary contractor's activity. The business questionnaire would be sent to the business addresses identified by the primary contractor; the household questionnaire, in turn, would be sent to the homes of the employees of those businesses that responded to the survey. This "snowball-type" sampling would continue until time or money was exhausted. In order to keep each organization's or household's contribution to the project in proper perspective, its total spending would be weighted by the size of its transaction with its customers who were included in the survey activity. The sum of the weighted transaction values obtained through the surveys would be the total economic impact of the project.

This survey-based approach to estimating indirect and induced impacts consumes a great deal of money and time, however. In addition, response rates by firms and households on surveys regarding financial matters are notoriously low. Hence, in the rare cases where survey work has been conducted to measure economic impacts, the results have tended to be not statistically representative of the targeted network of organizations and households. Consequently, relatively less expensive economic models based on Census data are typically used to measure economic impacts.

The economic model that has proven to estimate the indirect and induced economic effects of events most accurately is the input-output model. Its advantage stems from its level of industry detail and its depiction of interindustry relations. As shown in appendix A, a single calculation—known as the Leontief inverse—simulates the many rounds of business and household surveys. Input-output tables are constructed from nationwide Census surveys of businesses and households. The most difficult part of regional impact analysis is modifying a national input-output model so that it can be used to estimate impacts at a subnational level. Regionalization of the model typically is undertaken by the model producer and requires a large volume of data on the economy being modeled. This study employs regional input-output models to estimate the extent of the indirect and induced economic effects of a direct investment in historic preservation activities. The economic effects of historic rehabilitation are studied in this chapter; the effects of heritage tourism and the Main Street Program are studied in later chapters.

The Regional Science Research Corporation's Input-Output Model

The regional input-output model used by this study to derive the total economic impacts is a regionalized version of the Preservation Economic Impact Model produced by CUPR for the National Park Service. The PEI model (PEIM) produces very accurate estimates of the total regional impacts of an economic activity and employs detail for more than 500 industries in calculating the effects.

This model and its predecessors have proven to be the best of the non-survey-based regional input-output models at measuring a region's economic self-sufficiency. The models also have a wide array of measures that can be used to analyze impacts. In particular, PEIM produces one of the only regional economic models that enable an analysis of governmental revenue (i.e., tax) impacts and an analysis of gains in total regional wealth. (See appendix C for more details on the relative higher quality of the PEIM.)

The results of PEIM include many fields of data. The fields most relevant to this study are the total impacts with respect to the following:

- **Jobs:** *Employment, both part- and full-time, by place of work, estimated using the typical job characteristics of each detailed industry.* (Manufacturing jobs, for example, tend to be full-time; in retail trade and real estate, part-time jobs predominate.) All jobs generated at businesses in the region are included, even though the associated labor income of commuters may be spent outside of the region. In this study, all results are for activities occurring within the time frame of one year. Thus, the job figures should be read as job-years, i.e.; several individuals might fill one job-year on any given project.
 - **Income:** *"Earned" or "labor" income—specifically wages, salaries, and proprietors' income.* Income in this case does not include nonwage compensation (i.e., benefits, pensions, or insurance), transfer payments, or dividends, interest, or rents.
 - **Wealth:** *Value added—the equivalent at the subnational level of gross domestic product (GDP).* At the state level, this is called gross state product (GSP). Value added is widely accepted by economists as the best measure of economic well-being. It is estimated from state-level data by industry. For a firm, value added is the difference between the value of goods and services produced and the value of goods and nonlabor services purchased. For an industry, therefore, it is composed of labor income (net of taxes); taxes; nonwage labor compensation; profit (other than proprietors' income); capital consumption allowances; and net interest; dividends; and rents received.
 - **Output:** Of the measures in any input-output report, perhaps the least well defined one is that labeled "output." Output is defined as the value of shipments, which is reported in the Economic Census. The value of shipments is very closely related to
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the notion of business revenues. Thus it is NOT the "output" to which most other economists refer and which is better known as "gross domestic product" (GDP).

Input-output analysis "output" is not the same as business revenues for several reasons, however. First, establishments often sell some of their output to themselves and therefore do not ship it. Hence, such sales cannot be included in the Census's tally of the value of shipments. Second, to avoid some double counting in national accounts (those used to produce input-output tables), "output" in the wholesale and retail trade industries is measured simply as their margins, which is value added plus the costs of inputs used in the course of doing business. That is for these trade industries, "output" does NOT include the value of the items stocked on shelves.

- **Taxes:** *Tax revenues generated by the activity.* The tax revenues are detailed for the federal, state, and local levels of government. Totals are calculated by industry. *Federal tax* revenues include corporate and personal income, social security, and excise taxes, estimated from the calculations of value added and income generated.

State tax revenues include personal and corporate income, state property, excise, sales, and other state taxes, estimated from the calculations of value added and income generated (e.g., purchases by visitors).

Local tax revenues include payments to substate governments mainly through property taxes on new worker households and businesses. Local tax revenues can also include revenues from local income, sales, and other taxes.

TOTAL ECONOMIC IMPACTS OF ANNUAL ARKANSAS HISTORIC REHABILITATION

This chapter previously estimated that \$74.5 million in historic rehabilitation is effected annually in Arkansas. Of this, \$27.0 million tends to be in residential historic properties (single- and multifamily), \$35.1 million in private nonresidential historic properties, and \$12.3 million in public/institutional properties. What is the total economic benefit of this activity? What proportion of these benefits accrues to Arkansas?

To answer these questions, the study team applied the direct requirements of \$74.5 million in historic rehabilitation construction activity to economic models of Arkansas and the United States. This yielded total economic impacts for the country as a whole (national or U.S. effects) and for the state of Arkansas (in-state effects). For both the nation and state, the significant economic indicators were jobs created, resident income generated, resident wealth generated (gross domestic or state product), and taxes generated by level of government.

Besides the above five measures, CUPR estimated an additional gauge of activity termed *in-state wealth*. This measure consists of in-state generation of value added (or gross state product), less the amount that "leaks" out of the state's economy in the form of taxes paid to the federal government. Since taxes paid to the state and local governments remain in

state, they cannot be said to “leak” and, thus, are considered part of the accumulated in-state wealth.

PEIM expresses the resulting jobs, income, and wealth impacts in various levels of industry detail. The most convenient application breaks the industry-level results at the one-digit standard industrial code (SIC) or division level. This level has 11 industry divisions:

1. Agriculture
2. Agricultural, Fishing, and Forestry Services
3. Mining
4. Construction
5. Manufacturing
6. Transportation, Communications, and Public Utilities (TCPU)
7. Wholesale Trade
8. Retail Trade
9. Finance, Insurance, and Real Estate (FIRE)
10. Services
11. Government

PEIM provides results in two other industry breakdowns that detail subcategories under each of these eleven groups. These breakdowns use the two-digit SIC (86-industry) specification and the full industry specification of the input-output model (about 517 industries).

The model results, however, are only as good as the data that go into them. Thus, when the direct requirements are estimated, and the industry-level purchases are also estimated (as is the case in this study), care should be taken in interpreting model results, especially when they contain extreme categorical detail. Hence, the main body of this report focuses on the one-digit SIC level results, but data on the two-digit SIC results are made available as exhibits. The purpose of providing such detail is to enable a better idea of the quality of jobs that are likely to be created and of the types of industries that are most likely to be affected by historic rehabilitation activities.

The total economic impacts of the \$74.5 million in historic rehabilitation spending are summarized below in exhibit 2.5 and detailed in exhibits 2.6 through 2.9:

EXHIBIT 2.5
Total Economic Impacts of the Annual Arkansas
Historic Building Rehabilitation (\$74.5 Million)

	In Arkansas	Outside Arkansas	Total (U.S.)
Jobs (person years)	1,523	353	1,876
Income (\$millions)	40.9	10.7	51.6
Output (\$millions)	98.6	38.6	137.2
GDP/GSP ^a (\$millions)	60.1	17.5	77.6
Total taxes (\$millions)	15.2	1.6	16.8
Federal (\$millions)	11.9	.6	12.5
State/Local (\$millions)	3.3	.9	4.2
In-State wealth (\$millions) (GSP minus federal taxes)	48.2	—	—

^aGDP/GSP = Gross Domestic Product/Gross State Product.

Item 1 of section II in exhibit 2.6 shows how the \$74.5 million translates into direct economic effects nationwide. It creates 1,139 jobs (technically “job-years”), which produce \$33.0 million in labor income, \$74.5 in output and \$47.6 million in GDP.

The indirect and induced effects of historic preservation activity require 736 more jobs, and generate \$18.6 million more in income, \$62.7 million more in output, and \$29.9 million more in GDP in their support. As a consequence, the total economic impact—the sum of the direct and indirect and induced effects—of historic building rehabilitation is 1,876 jobs (1,139 + 736); \$51.6 million in income (\$33.0 million + \$18.6 million); \$137.2 million in output (\$74.5 million + \$62.7 million); and \$77.6 million in GDP (\$47.6 million + \$29.9 million).

According to exhibits 2.6 and 2.8, of the 1,876 jobs created annually, about 81 percent (1,523 jobs) are created within the state. Arkansas retains nearly all of the jobs (1,063 of the 1,139) created directly by state-based historic rehabilitation activity. However, the indirect and induced impacts of Arkansas historic rehabilitation activity tend to leak out of the state. Much of this leakage occurs through the demands of Arkansians for products manufactured elsewhere.

Hence, most of the jobs created outside of the state are created indirectly in manufacturing industries to produce rehabilitation materials or to meet the demands of households. Arkansas maintains only 62 percent (209 of 338) of all the high-paying manufacturing jobs that support the rehabilitation activity.

We can learn other interesting aspects of the impacts when we examine them by detailed industry (see exhibits 2.7 and 2.9). For example, the Arkansas manufacturing industries that are stimulated most by the preservation activity (listed in order of their share in the increase in the manufacturing component of GSP) are as follows: fabricated metal products (21.7 percent); lumber and wood products (15.9 percent); stone, clay, and glass products (15.2 percent); petroleum and coal products (13.1 percent); and chemicals and allied products (8.2 percent).

Outside of the construction, manufacturing, services, wholesale trade and retail trade industries (mostly, eating and drinking establishments as well as general merchandising stores), the two detailed Arkansas sectors that are most affected by preservation activity are transportation and public utilities and finance, insurance and real estate industries..

The distribution of nationwide impacts across industries is similar to that for Arkansas. As might be expected, however, the state experiences more of an impact in such industries as construction, retail trade, and, real estate. Some consumer-oriented goods-producing industries loom larger in the national mix of affected sectors. In particular, preservation activities contribute relatively more to GDP in such industries as food and kindred products, printing and publishing, and transportation equipment (automobile) manufacturing than they do to GSP. The contribution to GDP is also relatively larger for air transportation services; electricity, gas, and sanitary services; non-real estate finance industries; and business services. Of these, only business services is a producer-oriented industry. The influence on this industry is difficult to interpret, however, since it typically is largely composed of temporary help services, which are ultimately used by all other industries in the economy.

The average annual income of all jobs created by the Arkansas historic rehabilitation activity is estimated to be \$27,542. The average annual income for the Arkansas jobs created by the investment is somewhat lower—\$26,894 versus \$27,542. The gap exists because higher-paying manufacturing jobs are largely performed outside of the state.

The wealth accruing to the state from the lower-paying Arkansas jobs created by historic rehabilitation activity is lower than equivalent wealth accrual outside of the state. The magnitude of the difference between them is \$41,244 versus \$49,624 per job, or a wealth gap of \$8,380. This gap compares to a difference in labor income of \$3,445 per job (\$26,894 versus \$30,339). Thus, the wealth gap is not quite parallel to the wage gap, implying that rehab-related labor in Arkansas gets a greater proportion of state-generated wealth than does labor in rehab-related activities occurring outside of the state. It also implies Arkansas is relatively less well endowed in rehab-related industries with high-wealth generating capacity. Despite the relatively low return per worker, Arkansas does well in retaining the wealth generated by historic preservation activity through the accumulation of in-state wealth (GSP minus federal taxes). The return to the nation is also boosted; more than \$1 is returned to the nation for each dollar invested—for a total return of \$77.6 million on the original \$74.5 million investment. What's more, this return does not even consider the enhanced attractiveness for business or tourism purposes of the properties involved.

In summary, the economic impacts estimated through PEIM of the Arkansas and the U.S. economies reveal that the annual historic rehabilitation activity in Arkansas returns significantly more to the nation in terms of income and, hence, wealth than it costs to undertake. Nationwide, the \$74.5 million Arkansas investment creates about 1,876 new jobs, \$51.6 million in additional income, \$137.2 million in output, and \$77.6 million in total wealth. About 75 percent of each of these measures accumulates in Arkansas itself.

EXHIBIT 2.6
National Economic and Tax Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million)

	Economic Component			
	Output (000\$)	Employment (jobs)	Income (000\$)	Gross Domestic Product (000\$)
I. TOTAL EFFECTS (Direct and Indirect/Induced)*				
Private				
1. Agriculture	1,036.2	6	80.8	188.8
2. Agri. Serv., Forestry, & Fish	929.9	21	333.2	398.3
3. Mining	2,644.7	17	752.4	1,806.8
4. Construction	33,130.0	730	19,362.4	30,211.7
5. Manufacturing	49,042.7	338	11,538.3	18,535.1
6. Transport. & Public Utilities	8,228.0	57	2,161.0	3,975.8
7. Wholesale	5,552.1	61	2,257.8	2,950.2
8. Retail Trade	7,266.1	190	2,670.2	4,289.7
9. Finance, Ins., & Real Estate	9,163.3	106	3,359.0	5,727.5
10. Services	19,610.7	343	8,972.9	9,276.3
Private Subtotal	136,603.7	1,869	51,487.9	77,360.3
Public				
11. Government	601.7	7	182.4	285.6
Total Effects (Private and Public)	137,205.4	1,876	51,670.3	77,645.9
II. DISTRIBUTION OF EFFECTS/MULTIPLIER				
1. Direct Effects	74,494.9	1,139	33,050.0	47,656.5
2. Indirect and Induced Effects	62,710.5	736	18,620.4	29,989.4
3. Total Effects	137,205.4	1,876	51,670.3	77,645.9
4. Multipliers (3/1)	1.842	1.647	1.563	1.629
III. COMPOSITION OF GROSS STATE PRODUCT				
1. Wages--Net of Taxes				43,840.5
2. Taxes				
a. Local/State				2,594.2
b. Federal				
General				1,578.9
Social Security				4,500.0
Federal Subtotal				6,079.0
c. Total taxes (2a+2b)				8,673.1
3. Profits, dividends, rents, and other				25,132.3
4. Total Gross State Product (1+2+3)				77,645.9
EFFECTS PER MILLION DOLLARS OF INITIAL EXPENDITURE				
Employment (Jobs)				25.2
Income				693,592
Local/State Taxes				56,522
Gross State Product				1,042,73

Note: Detail may not sum to totals due to rounding.

*Terms:

Direct Effect (State)--the proportion of direct spending on goods and services produced.

Indirect Effects--the value of goods and services needed to support the provision of those direct economic effects.

Induced Effects--the value of goods and services needed by households that provide the direct and indirect labor.

EXHIBIT 2.7
National Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million) in Industry Detail

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Agriculture	1,036.2	6	80.8	188.8
Dairy Farm Products	182.3	1	10.9	16.0
Eggs	0.8	0	0.0	0.1
Meat Animals	354.3	1	16.1	33.1
Misc. Livestock	8.2	0	0.7	1.4
Wool	2.6	0	0.2	0.4
Cotton	71.8	0	7.1	17.6
Tobacco	1.6	0	0.1	0.4
Grains & Misc. Crops	35.5	0	0.9	9.9
Feed Crops	98.0	0	2.1	25.2
Fruits & Nuts	151.9	3	25.5	37.5
Vegetables	9.0	1	0.9	2.4
Greenhouse & Nursery Products	76.5	0	14.3	32.4
Sugar Beets & Cane	9.5	0	0.2	3.4
Flaxseed, Peanuts, Soybean, Sunflower	34.1	0	1.8	9.1
Agri. Serv., Forestry, & Fish	929.9	21	333.2	398.3
Agri. Services (07)	566.0	19	300.3	263.2
Forestry (08)	360.0	2	31.9	133.4
Fishing, Hunting, & Trapping (09)	3.9	0	1.0	1.8
Mining	2,644.7	17	752.4	1,806.8
Coal Mining (12)	160.8	1	50.0	144.7
Oil & Gas Extraction (13)	719.7	2	96.5	339.2
Nonmetal Min.-Ex. Fuels (14)	1,740.5	14	599.7	1,304.1
Metal Mining (10)	23.6	0	6.1	18.8
Construction	33,130.0	730	19,362.4	30,211.7
General Bldg. Contractors (15)	24,720.3	503	14,141.0	22,811.9
Heavy Const. Contractors (16)	4,813.8	146	3,227.5	4,508.1
Special Trade Contractors (17)	3,595.9	82	1,993.9	2,891.7
Manufacturing	49,042.7	338	11,538.3	18,535.1
Food & Kindred Prod. (20)	2,562.4	10	345.2	869.3
Tobacco Manufactures (21)	159.9	0	14.9	108.9
Textile Mill Prod. (22)	3,504.7	25	616.2	821.9
Apparel & Other Prod. (23)	863.3	13	245.8	150.0
Limber & Wood Prod. (24)	7,294.8	62	1,647.7	2,087.3
Furniture & Fixtures (25)	337.3	4	103.3	116.1
Paper & Allied Prod. (26)	720.4	4	158.5	278.1
Chemicals & Allied Prod. (28)	4,638.2	22	937.4	2,285.8

EXHIBIT 2.7(continued)
National Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million) in Industry Detail

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Petroleum & Coal Prod. (29)	4,458.1	16	680.8	1812.0
Rubber & Misc. Plastics (30)	2,590.2	23	708.0	1141.2
Leather & Leather Prod. (31)	167.5	2	43.9	37.8
Stone, Clay, & Glass (32)	5,694.0	54	1,760.7	1,967.6
Primary Metal Prod. (33)	1,526.6	6	321.9	685.4
Fabricated Metal Prod. (34)	7,134.6	52	2,135.3	3,030.9
Machinery, Except Elec. (35)	1,487.0	12	475.9	591.8
Electric & Elec. Equip. (36)	2,383.3	13	566.4	1,046.5
Transportation Equipment (37)	1,787.4	5	271.2	789.6
Instruments & Rel. Prod. (38)	383.5	3	114.3	120.2
Misc. Manufacturing Ind's. (39)	550.6	4	140.5	301.3
Printing & Publishing (27)	799.1	7	250.5	293.5
Transport. & Public Utilities	8,228.0	57	2,161.0	3,975.8
Railroad Transportation (40)	682.7	5	283.1	532.9
Local Pass. Transit (41)	191.7	5	82.7	113.4
Trucking & Warehousing (42)	2,285.5	29	908.9	1,151.0
Water Transportation (44)	343.1	3	96.8	155.0
Transportation by Air (45)	307.7	3	107.1	147.5
Pipe Lines-Ex. Nat. Gas (46)	40.7	0	4.4	19.7
Transportation Services (47)	135.1	2	50.4	64.9
Communication (48)	1,545.2	5	312.2	627.7
Elec., Gas, & Sanitary Serv. (49)	2,696.4	5	315.3	1,163.6
Wholesale	5,552.1	61	2,257.8	2,950.2
Wholesale-Durable Goods (50)	2,224.3	25	904.5	1,181.9
Wholesale-Nondurable Goods (51)	3,327.8	36	1,353.2	1,768.3
Retail Trade	7,266.1	190	2,670.2	4,289.7
Bldg. Mat.-Garden Supply (52)	390.7	7	169.7	255.2
General Merch. Stores (53)	829.3	20	299.0	541.7
Food Stores (54)	704.5	26	274.7	460.2
Auto. Dealers-Serv. Stat. (55)	1,178.1	15	309.9	769.5
Apparel & Access. Stores (56)	406.3	15	190.8	265.4
Furniture & Home Furnish. (57)	199.0	4	92.9	130.0
Eating & Drinking Places (58)	2,504.9	77	851.5	1,179.7
Miscellaneous Retail (59)	1,053.4	27	481.7	688.0
Finance, Ins., & Real Estate	9,163.3	106	3,359.0	5,727.5
Banking (60)	1,162.7	10	306.9	664.1
Nondep. Credit Institut. (61)	2,487.3	41	1,302.9	1,199.4

EXHIBIT 2.7(continued)
National Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million) in Industry Detail

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Security, Comm. Brokers (62)	328.6	2	161.5	199.5
Insurance Carriers (63)	2,106.0	19	847.4	1,737.7
Ins. Agents, Brokers (64)	491.2	7	189.1	229.3
Real Estate (65)	1,887.6	18	184.6	1,282.7
Holding and Invest. Off. (67)	699.8	8	366.6	414.8
Services	19,610.7	343	8,972.9	9,276.3
Hotels & Other Lodging (70)	504.9	12	162.0	279.9
Personal Services (72)	817.4	23	291.5	310.6
Business Services (73)	2,255.9	40	897.5	1,068.7
Auto Repair, Serv., Garages (75)	627.0	6	167.4	284.6
Misc. Repair Services (76)	364.9	7	142.2	199.4
Motion Pictures (78)	475.5	7	125.2	133.2
Amusement & Recreation (79)	352.8	12	133.3	197.3
Health Services (80)	823.7	15	448.0	457.7
Legal Services (81)	2,305.5	22	1,066.3	1,172.3
Educational Services (82)	354.5	11	180.6	180.9
Social Services (83)	199.4	6	97.5	103.0
Museums, Gardens & Mem. Orgs. (84, 86)	851.0	22	445.8	426.1
Engineer. & Manage. Serv. (87)	9,119.8	148	4,573.9	4,208.2
Private Households (88)	23.3	2	23.3	23.3
Miscellaneous Services (89)	535.2	10	218.4	231.2
Government	601.7	7	182.4	285.6
Total	137,205.4	1,876	51,670.3	77,645.9

Note: Detail may not sum to totals due to rounding.

EXHIBIT 2.8
In-state Economic and Tax Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million)

	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
I. TOTAL EFFECTS (Direct and Indirect/Induced)*				
Private				
1. Agriculture	175.6	1	17.2	38.7
2. Agri. Serv., Forestry, & Fish	684.3	18	283.9	302.9
3. Mining	1,732.3	13	550.7	1,234.1
4. Construction	32,410.1	721	19,120.3	29,780.8
5. Manufacturing	28,267.4	209	6,952.6	10,359.7
6. Transport. & Public Utilities	4,850.4	33	1,282.7	2,356.4
7. Wholesale	4,022.3	44	1,635.7	2,137.4
8. Retail Trade	6,313.1	164	2,329.3	3,766.1
9. Finance, Ins., & Real Estate	4,404.7	51	1,468.1	2,666.4
10. Services	15,311.3	265	7,183.7	7,275.8
Private Subtotal	98,171.6	1,518	40,824.3	59,918.2
Public				
11. Government	452.3	5	136.3	210.3
Total Effects (Private and Public)	98,623.9	1,523	40,960.5	60,128.5
II. DISTRIBUTION OF EFFECTS/MULTIPLIER				
1. Direct Effects	65,654.6	1,064	30,466.5	43,834.6
2. Indirect and Induced Effects	32,969.3	459	10,494.1	16,294.0
3. Total Effects	98,623.9	1,523	40,960.5	60,128.5
4. Multipliers (3/1)	1.502	1.431	1.344	1.372
III. COMPOSITION OF GROSS STATE PRODUCT				
1. Wages--Net of Taxes				34,754.2
2. Taxes				
a. Local/State				1,753.6
b. Federal				
General				1,243.2
Social Security				4,391.6
Federal Subtotal				5,634.9
c. Total taxes (2a+2b)				7,388.4
3. Profits, dividends, rents, and other				17,985.9
4. Total Gross State Product (1+2+3)				60,128.5
EFFECTS PER MILLION DOLLARS OF INITIAL EXPENDITURE				
Employment (Jobs)				20.4
Income				549,830
Local/State Taxes				44,715
Gross State Product				807,130

Note: Detail may not sum to totals due to rounding.

*Terms:

Direct Effect (State)—the proportion of direct spending on goods and services produced.

Indirect Effects—the value of goods and services needed to support the provision of those direct economic effects.

Induced Effects—the value of goods and services needed by households that provide the direct and indirect labor.

EXHIBIT 2.9
In-state Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million)

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Agriculture	175.6	1	17.2	38.7
Dairy Farm Products	0.0	0	0.0	0.0
Eggs	0.0	0	0.0	0.0
Meat Animals	77.1	0	3.6	7.4
Misc. Livestock	0.8	0	0.1	0.1
Wool	0.0	0	0.0	0.0
Cotton	11.9	0	1.2	2.9
Tobacco	0.0	0	0.0	0.0
Grains & Misc. Crops	10.4	0	0.3	2.9
Feed Crops	0.9	0	0.0	0.3
Fruits & Nuts	28.0	1	4.7	7.0
Vegetables	0.4	0	0.0	0.1
Greenhouse & Nursery Products	36.6	0	6.8	15.5
Sugar Beets & Cane	0.0	0	0.0	0.0
Flaxseed, Peanuts, Soybean, Sunflower	9.5	0	0.5	2.5
Agri. Serv., Forestry, & Fish	684.3	18	283.9	302.9
Agri. Services (07)	500.4	17	267.3	234.6
Forestry (08)	181.8	1	16.1	67.4
Fishing, Hunting, & Trapping (09)	2.1	0	0.5	1.0
Mining	1,732.3	13	550.7	1,234.1
Coal Mining (12)	0.2	0	0.1	0.2
Oil & Gas Extraction (13)	231.1	1	31.0	108.9
Nonmetal Min.-Ex. Fuels (14)	1,499.0	12	519.1	1,123.6
Metal Mining (10)	2.0	0	0.5	1.3
Construction	32,410.1	721	19,120.3	29,780.8
General Bldg. Contractors (15)	24,487.9	499	14,033.0	22,626.7
Heavy Const. Contractors (16)	4,746.6	145	3,193.9	4,457.9
Special Trade Contractors (17)	3,175.7	78	1,893.3	2,696.2
Manufacturing	28,267.4	209	6,952.6	10,359.7
Food & Kindred Prod. (20)	998.6	4	142.4	357.2
Tobacco Manufactures (21)	0.0	0	0.0	0.0
Textile Mill Prod. (22)	2,071.4	13	318.1	475.9
Apparel & Other Prod. (23)	235.7	3	66.5	41.0
Limber & Wood Prod. (24)	5,839.0	51	1,345.7	1,648.3
Furniture & Fixtures (25)	213.1	2	66.8	74.3
Paper & Allied Prod. (26)	306.9	1	65.1	120.2
Chemicals & Allied Prod. (28)	1,689.7	9	342.8	853.1
Petroleum & Coal Prod. (29)	3,140.4	14	592.2	1,361.4
Rubber & Misc. Plastics (30)	662.2	6	182.9	293.1

EXHIBIT 2.9(continued)
In-state Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million)

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Leather & Leather Prod. (31)	56.3	1	15.4	13.1
Stone, Clay, & Glass (32)	4,669.5	44	1,415.2	1,576.1
Primary Metal Prod. (33)	602.8	2	126.2	274.4
Fabricated Metal Prod. (34)	5,371.6	39	1,576.3	2,253.5
Machinery, Except Elec. (35)	945.6	8	294.1	374.3
Electric & Elec. Equip. (36)	762.3	5	203.9	355.8
Transportation Equipment (37)	211.8	1	49.2	100.3
Instruments & Rel. Prod. (38)	61.5	0	20.3	19.2
Misc. Manufacturing Ind's (39)	82.0	1	23.1	39.8
Printing & Publishing (27)	347.2	3	106.6	128.7
Transport. & Public Utilities	4,850.4	33	1,282.7	2356.4
Railroad Transportation (40)	377.9	3	156.7	295.0
Local Pass. Transit (41)	89.2	2	38.5	52.8
Trucking & Warehousing (42)	1,399.4	18	566.6	710.4
Water Transportation (44)	84.5	1	28.2	41.6
Transportation by Air (45)	158.2	2	55.1	75.9
Pipe Lines-Ex. Nat. Gas (46)	14.1	0	1.5	6.8
Transportation Services (47)	69.6	1	26.0	33.2
Communication (48)	1,031.4	3	209.9	423.8
Elec., Gas, & Sanitary Serv. (49)	1,626.2	4	200.3	717.0
Wholesale	4,022.3	44	1,635.7	2,137.4
Wholesale-Durable Goods (50)	1,726.0	19	701.9	917.2
Wholesale-Nondurable Goods (51)	2,296.3	25	933.8	1,220.2
Retail Trade	6,313.1	164	2,329.3	3,766.1
Bldg. Mat.-Garden Supply (52)	357.3	7	155.2	233.4
General Merch. Stores (53)	759.5	18	273.9	496.1
Food Stores (54)	643.0	24	250.7	420.0
Auto. Dealers-Serv. Stat. (55)	1,073.4	13	282.2	701.1
Apparel & Access. Stores (56)	371.3	13	174.4	242.5
Furniture & Home Furnish. (57)	181.2	4	84.6	118.4
Eating & Drinking Places (58)	1,962.4	60	667.1	924.2
Miscellaneous Retail (59)	965.0	25	441.3	630.3
Finance, Ins., & Real Estate	4,404.7	51	1,468.1	2,666.4
Banking (60)	858.9	8	226.7	490.6
Nondep. Credit Institut. (61)	1,112.5	19	582.7	536.4

EXHIBIT 2.9(continued)
In-state Economic Impacts of Annual
Arkansas Historic Building Rehabilitation (\$74.5 Million)

	Industry Component			
	Output (\$000)	Employment (jobs)	Income (\$000)	Gross Domestic Product (\$000)
Security, Comm. Brokers (62)	162.0	1	79.6	98.3
Insurance Carriers (63)	619.6	6	249.3	511.2
Ins. Agents, Brokers (64)	378.6	6	145.8	176.7
Real Estate (65)	1,133.5	11	110.9	770.2
Holding and Invest. Off. (67)	139.8	2	73.2	82.8
Services	15,311.3	265	7,183.7	7,275.8
Hotels & Other Lodging (70)	93.3	2	33.1	55.8
Personal Services (72)	589.9	17	208.1	225.3
Business Services (73)	1,504.0	27	590.4	715.1
Auto Repair, Serv., Garages (75)	444.0	4	116.9	201.5
Misc. Repair Services (76)	200.5	4	77.8	109.7
Motion Pictures (78)	203.5	3	50.5	60.3
Amusement & Recreation (79)	143.3	5	47.0	78.1
Health Services (80)	748.7	13	408.7	417.3
Legal Services (81)	2,033.8	19	940.6	1,034.1
Educational Services (82)	284.6	10	148.2	145.2
Social Services (83)	174.8	5	84.5	89.9
Museums, Gardens & Mem. Orgs. (84, 86)	539.9	17	307.5	289.9
Engineer. & Manage. Serv. (87)	7,956.0	130	3,996.6	3,670.8
Private Households (88)	21.4	2	21.4	21.4
Miscellaneous Services (89)	373.6	7	152.5	161.4
Government	452.3	5	136.3	210.3
Total	98,623.9	1,523	40,960.5	60,128.5

Note: Detail may not sum to totals due to rounding.