









ENHANCING LIVES, IMPACTING COMMUNITIES: THE FEDERAL HOME LOAN BANK SYSTEM



FHLBANKS
A NATION OF LOCAL LENDERS

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Table of Contents

	Executive Summary.....	1
	Key Findings – National Report	4
	Background and Introduction	6
	Study Objectives	7
	Study Methodology	8
	Total Economic Basis and Impact Results	12
	Economic Basis and Economic Impact Results at the District and State Level	12
	Economic Basis and Economic Impact Results at the National Level	21
	Conclusions.....	30
	References	32

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The economic impact study timeframe includes inflation-adjusted data for the affordable housing development and home purchases enhanced by the Federal Home Loan Bank System since 1990 and 1995, respectively.

Executive Summary

This report details the national economic impacts of the rental and owner-occupied affordable housing development and the home purchases that have been enhanced, in part, by the Federal Home Loan Banks' Affordable Housing Program (AHP) from 1990 through 2016. Analysis of the local, state and regional economic impacts were conducted and presented in separate reports delineated by geography.

The Federal Home Loan Bank System (FHLBank System) was chartered by Congress in 1932. It consists of 11 individual Federal Home Loan Banks (FHLBanks), each of which covers a defined geographic region, each referred to as a district. The mission of the FHLBanks is to provide reliable liquidity to member financial institutions to support housing finance, asset-liability management and community investment.¹

Since its creation in 1989, the FHLBank System's AHP has been a substantial and valuable source of real estate equity for the financing of affordable housing in the United States. From 1990 through 2016, the 11 FHLBanks collectively contributed more than \$4.1 billion (\$5.4 billion in inflation-adjusted dollars) in AHP real estate finance equity for rental, home construction and rehabilitation projects. This equity was combined with \$65.7 billion (\$83.9 billion in inflation-adjusted dollars) in leveraged dollars from other private and public sources, enabling \$69.9 billion (\$89.3 billion in inflation-adjusted dollars) in total development funding for more than 601,000 housing units. From 1995 through 2016, the FHLBanks also collectively contributed approximately \$1.0 billion (\$1.2 billion in inflation-adjusted dollars) in AHP equity for down payment assistance and mortgage principal reduction, assisting more than 183,000 home purchase units.

Each FHLBank allocates at least 10 percent of its annual net earnings to fund its AHP. As such, the continued operating and mission success of the FHLBanks has directly enhanced the development and purchase of affordable housing throughout the country and has had a positive impact on local and state economies and on the national economy.

In 2017, the FHLBanks contracted with the Florida State University Center for Economic Forecasting and Analysis (FSU CEFA), to conduct an economic impact analysis of the AHP.

The FSU CEFA study team received, reviewed and analyzed data provided by each of the 11 FHLBanks. The data pertains to the total financing and total development costs associated with AHP-enhanced affordable housing development projects and home purchases. Data received included AHP funding dollars, other "equity-like" funding dollars, leveraging dollars, total units and the total costs associated with AHP-enhanced development projects and home purchases. The inflation-adjusted data were used as inputs to the IMPLAN economic input-output models² in order to estimate the economic impacts. Inflation-adjusted refers to the measure of return that takes into account the time period's inflation rate. IMPLAN is a widely accepted integrated input-output model, used extensively by federal, state and local government agencies, and other private and nonprofit entities, to measure proposed legislative and other program and policy economic impacts across sectors.

The economic impact of the affordable rental and owner-occupied housing enhanced by the FHLBanks' AHP funding is delineated in two categories: (1) Rental, Home Construction and Rehabilitation activities, and (2) Home Purchase activities. The economic impacts for each of the categories are distinct. The economic impact of Rental, Home Construction and Rehabilitation is based on the direct, indirect and induced impacts of development or

¹ <http://www.fhlbanks.com/fhlbanks--mission.html>

² <http://www.implan.com/>

construction-related activities. The economic impact of Home Purchases is based on the activities related to the purchase of homes.

The economic impact analyses reports the following outcomes at the various geographic levels:³

- One (1) national report, including Puerto Rico, Guam, American Samoa, Northern Mariana Islands, and the U.S. Virgin Islands.
- Eleven (11) district reports, delineated by the geographic boundaries of each of the 11 FHLBanks.
- Fifty-six (56) state and territory-level reports, including each of the 50 states in the United States plus Washington, D.C., Puerto Rico, Guam, American Samoa, Northern Mariana Islands and the U.S. Virgin Islands.
- Up to 110 sub-state level reports, delineated by the geographic boundaries of a county, metropolitan statistical area (MSA), or congressional district.

The following data and impact results pertain to this national report and are presented based on the two categories of AHP: Rental, Home Construction and Rehabilitation, and Home Purchases.

The 1990–2016 cumulative economic impacts for AHP-enhanced funding for Rental, Home Construction and Rehabilitation housing activities are expressed in Table ES1 as total economic benefits (output; or sales/revenues), job creation (employment), labor income, gross domestic product (GDP; or value-added) and tax revenue of federal, state and local governments (all in inflation-adjusted dollars). For that period, the cumulative economic impacts included an estimated \$181.00 billion in total economic benefits, \$69.24 billion in labor income, \$102.66 billion in GDP, over 1.2 million full-time and part-time jobs and \$19.98 billion in federal, state and local taxes.

Table ES1. The Total Economic Impacts of AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Rental/Home Construction/Rehabilitation	\$181.00	1,231,721	\$69.24	\$102.66	\$13.44	\$6.54

(in inflation-adjusted billion dollars)

The 1995–2016 cumulative economic impacts for AHP-enhanced funding for Home Purchases are expressed in Table ES2. The cumulative economic impacts included an estimated \$36.74 billion in total economic benefits, \$8.85 billion in labor income, \$23.51 billion in GDP, over 250,000 full-time and part-time jobs and \$3.25 billion in federal, state and local taxes.

Table ES2. The Total Economic Impacts of AHP-Enhanced Funding for Home Purchases

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Home Purchases	\$36.74	250,710	\$8.85	\$23.51	\$1.81	\$1.44

(in inflation-adjusted billion dollars)

³ The economic impact analysis results are provided in up to 178 separate hard-copy and online (pdf) reports.

The total economic benefits for Rental, Home Construction and Rehabilitation, and Home Purchases are estimated to be \$217.74 billion, \$78.09 billion in labor income, \$126.17 billion in GDP, 1.48 million full-time and part-time jobs and \$23.24 billion in federal, state and local taxes.

FSU also calculated the leveraging and multiplier effects of AHP-enhanced financing for the development and home purchases. The leveraging effect is the input or direct spending and includes AHP funding and other public, private and owner resources identified as used in leveraging programs. The multiplier effect is the term used for the economic ripple effect measured by an economic impact model. The multipliers provide estimates of the number of times each dollar of input, or direct spending, cycles through the economy in terms of indirect and induced output, or additional spending, personal income and employment. In this case, the multiplier effect accounts for how each additional job or dollar of output is enhanced by AHP funding.⁴ The multiplier effects for the two categories are depicted in tables ES3 and ES4. The tables show that for every dollar of AHP-enhanced funding, there is a multiplier effect of \$33.68 in Rental, Home Construction and Rehabilitation, and a multiplier effect of \$30.04 in Home Purchases.

Table ES3. The Leveraging and Multiplier Effects of AHP-Enhanced Funding

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Rental, Home Construction, Rehabilitation	\$15.60	2.0284	\$33.68

Table ES4. The Leveraging and Multiplier Effects of AHP-Enhanced Funding

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Home Purchases	\$14.21	1.9730	\$30.01

The structure of this National Report includes, at the beginning of the report, a discussion of the Background, Introduction and Study Objectives. The Study Methodology and Economic Impact Results sections follow next. The Study Methodology covers the data collection, data management and databases used in the process of economic modeling. A more detailed description of the Study Methodology may be found in the "Study Methodology and Appendices" report. The Economic Impact Results provide the direct, indirect, induced and total economic impact results specific to AHP-enhanced Rental, Home Construction and Rehabilitation, and AHP-enhanced Home Purchases. The economic impact results focuses on economic benefits, job creation, labor income, value added and tax revenues. The Conclusions and References follow next, completing the report. The Appendices are included in the "Study Methodology and Appendices" report.

⁴ The multiplier effects are based on the calculation: leveraging effects multiplied by the estimated multiplier (or IMPLAN factor).

Key Findings – National Report

ECONOMIC IMPACTS OF AHP-ENHANCED RENTAL, HOME CONSTRUCTION AND REHABILITATION ACTIVITIES



\$181.00 BILLION
TOTAL ECONOMIC BENEFITS



1,231,721 JOBS
JOB CREATION



\$69.24 BILLION
LABOR INCOME



\$102.66 BILLION
GDP



\$13.44 BILLION
FEDERAL TAX REVENUE



\$6.54 BILLION
STATE AND LOCAL TAX REVENUE

ECONOMIC IMPACTS OF AHP-ENHANCED HOME PURCHASES



\$36.74 BILLION
TOTAL ECONOMIC BENEFITS



250,710 JOBS
JOB CREATION



\$8.85 BILLION
LABOR INCOME



\$23.51 BILLION
GDP



\$1.81 BILLION
FEDERAL TAX REVENUE



\$1.44 BILLION
STATE AND LOCAL TAX REVENUE

In inflation-adjusted dollars

**TOTAL COMBINED ECONOMIC IMPACTS OF AHP-ENHANCED
RENTAL, HOME CONSTRUCTION AND REHABILITATION ACTIVITIES,
AND HOME PURCHASES**



\$217.74 BILLION

TOTAL ECONOMIC BENEFITS

\$107.84 BILLION
DIRECT

\$29.51 BILLION
INDIRECT

\$80.40 BILLION
INDUCED



1,482,431 JOBS

JOB CREATION

659,454 JOBS
DIRECT

232,448 JOBS
INDIRECT

590,529 JOBS
INDUCED



\$78.09 BILLION

LABOR INCOME

\$35.11 BILLION
DIRECT

\$11.00 BILLION
INDIRECT

\$31.98 BILLION
INDUCED



\$126.17 BILLION

GDP

\$57.18 BILLION
DIRECT

\$17.25 BILLION
INDIRECT

\$51.74 BILLION
INDUCED



\$15.25 BILLION

FEDERAL TAX REVENUE

65.6 PERCENT
TAX REVENUE SHARE



\$7.98 BILLION

STATE AND LOCAL TAX REVENUE

In inflation-adjusted dollars

Background and Introduction

The Federal Home Loan Bank System (FHLBank System) was chartered by Congress in 1932. It consists of 11 individual Federal Home Loan Banks (FHLBanks), each of which covers a defined geographic region, otherwise referred to as a district. The FHLBanks are referenced and headquartered as follows: Atlanta, Boston, Chicago, Cincinnati, Dallas, Des Moines, Indianapolis, New York, Pittsburgh, San Francisco and Topeka. Each FHLBank is member-owned and government-chartered, and the FHLBank System collectively serves approximately 7,000-member financial institutions, consisting of commercial banks, thrift institutions, credit unions, insurance companies and certified community development financial institutions. The FHLBanks have been a fundamental part of the nation's financial system since their inception.⁵ The mission of the FHLBanks is to provide reliable liquidity to member financial institutions to support housing finance, asset-liability management and community investment.⁶

The FHLBanks' Affordable Housing Program was created by Congress in the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and began operations in 1990.⁷ AHP is capitalized by each FHLBank allocating at least 10 percent of its annual net earnings to its AHP funding programs. The continued operating and mission success of the FHLBanks directly leads to the capitalization of AHP that has enhanced the development and purchase of both for-sale and rental housing throughout our nation and territories. This rental and owner-occupied housing construction/rehabilitation development and home purchases activity has had an impact on the local, state and the national economy. The following national report details the economic impact of AHP-assisted affordable rental and owner-occupied housing from 1990 through 2016.

Florida State University Center for Economic Forecasting and Analysis

The Florida State University (FSU) Center for Economic Forecasting and Analyses (CEFA) specializes in conducting economic research and performing economic analyses to examine public policy issues across a spectrum of research areas. CEFA provides advanced research and training in environmental economics, economic development, education and energy, among other areas. CEFA also serves as a foundation for training students in applied economics, using modeling software and other econometric and statistical tools. CEFA Director Julie Harrington and her staff have authored numerous articles, reports and presentations regarding applied economics research.

Harrington holds a doctorate in economics and a Master of Science in fisheries from Auburn University and is the director of the CEFA at FSU. She has an extensive background in economic, econometric and impact analysis. Her current research interests are directed toward the areas of economic development, environmental, education, energy and high-tech economics, among others. In the area of the economics of affordable housing, she has recently conducted research on the economic impacts of the Florida Housing Finance Corporation Programs and the SHIP and SAIL Programs for the Florida Realtor's Association.

⁵ See: <https://www.fhfa.gov/SupervisionRegulation/FederalHomeLoanBanks/Pages/About-FHL-Banks.aspx>

⁶ <http://www.fhlbanks.com/fhlbanks--mission.html>

⁷ See: http://www.fhlb-of.com/ofweb_userWeb/pageBuilder/affordable-housing-programs-33

Study Objectives

The goal of this study is to quantify and analyze the economic impacts of affordable housing rental and home purchase activities enhanced by AHP funding. The study does not assume or imply that AHP funding is the sole basis for the development activity or purchase of rental or owner-occupied housing. In this study, it is recognized that the greatest impact to the affordable rental and owner-occupied affordable housing development, or home purchase activity, is through the FHLBanks' AHP-enhanced leveraging capabilities. Additionally, in areas where development costs are extraordinarily high, AHP serves as the final gap financing piece that makes projects feasible and allows them to move forward.

The study analyzes and reports on the economic impacts of the rental and home purchase activities enhanced by AHP funding in terms of the effects on total economic benefits, job creation, labor income, tax revenue and gross domestic product (GDP). The property types examined in this analysis include multifamily rental housing, single-family rental housing and single-family owner-occupied housing developments, which are grouped under the Rental, Home Construction and Rehabilitation category. Single-family home purchases are delineated under the Home Purchases category.

The study will report analysis of the following broad data inputs: Rental, Home Construction and Rehabilitation activity in total AHP-enhanced funding, leveraging, total development costs, number of projects and number of units; and Home Purchases in total AHP-enhanced funding, contract sales price, number of units and first mortgages. The data are presented both in reported year and in inflation-adjusted dollars.

The IMPLAN economic modeling software is used to quantify the impacts in both of the aforementioned categories. The final deliverables are the following economic impact reports:⁸

- One (1) national report, including Puerto Rico, Guam, American Samoa, Northern Mariana Islands, and the U.S. Virgin Islands.
- Eleven (11) district reports, delineated by the geographic boundaries of each of the 11 FHLBanks.
- Fifty-six (56) state and territory-level reports, including each of the 50 states in the United States plus Washington, D.C., Puerto Rico, Guam, American Samoa, Northern Mariana Islands and the U.S. Virgin Islands.
- Up to 110 sub-state level reports, delineated by the geographic boundaries of a county, metropolitan statistical area (MSA), or congressional district.



Lion Creek Crossings is a catalyst for community renewal in Oakland, California. Part of a healthy neighborhood initiative, the multi-phase development received AHP funding through three FHLBank San Francisco members.

⁸ The economic impact analysis results were delivered in 178 separate hard-copy and online (pdf) reports.

Study Methodology

The FSU CEFA research team received, reviewed, cleaned and analyzed data on AHP-enhanced funding and total development costs of AHP-enhanced rental and owner-occupied housing, provided by each FHLBank. As mentioned earlier in the report, for the purpose of the economic impact analysis in this study, AHP-enhanced funding activity was categorized as Rental, Home Construction and Rehabilitation, and Home Purchases. Using IMPLAN, the research team modeled the effects of AHP-enhanced rental and owner-occupied housing on economic benefits, job creation, labor income, gross domestic product and tax revenues.

The FHLBanks' data was provided to the FSU CEFA research team via the Federal Home Loan Bank of Atlanta (FHLB Atlanta) during the time period from July 2017 to March 2018. In the Appendix, the research team included a synopsis of relevant notes associated with the data provided by each of the FHLBanks.⁹

Converting Competitive and Set-aside Data into Rental, Home Construction and Rehabilitation, and Home Purchase Categories

FHLBanks offer AHP funding through two primary channels, a mandatory competitive application program and a voluntary set-aside program. Through the former, FHLBanks provide grants to their members on behalf of project sponsors. Through the latter, FHLBanks disburse AHP funding to members to provide assistance directly to homebuyers or homeowners.

The initial data structure (e.g., set-aside and competitive) was not conducive for the economic impact analysis as it's based on the regulatory and programmatic mechanisms defining the delivery of AHP-enhancing funding rather than the type of housing activity (e.g., construction, home purchases). As such, the research team devised a method to convert the set-aside and competitive data into the Rental, Home Construction and Rehabilitation, and Home Purchases categories. The conversion involved reallocating and realigning the program codes in the competitive and set-aside databases. This was done according to the crosswalk presented in Table 1.

Table 1. Database and Variable Designation Crosswalk

Data Base	Variables	Allocation	Combination:
Set-Aside	Purchase	Purchase	Purchase
Set-Aside	Rehab	Rehab	Rehab
Competitive	Own	C	Construction
		R	Rehab
		A	Purchase
		C/R	Construction
		C/A	Rehab
		R/A	Purchase
		C/R/A	Construction
Competitive	Rental	Rental	Rental

*Differences in color represent a transformed variable subset

Finally, the transformed data was aggregated over the reported years. This aggregation poses some methodological issue as different year-cohorts are typically modeled with individual static-year input-output models, as there are

⁹ See Appendices in the Study Methodology and Appendices Report.

economic structural changes associated with each year model. When using IMPLAN, the typical economic modeling approach is to examine the economic impacts associated with one year or point in time.¹⁰

Definitions of Key Terms Used in the Economic Basis and Economic Impact Analysis Sections

The following economic basis section represents the input data used for the economic modeling process. The economic impact section provides a description of the variables used in the economic impact analysis.

Economic Basis Definitions

AHP provides real estate finance equity for both rental and for-sale housing. AHP is more often referred to as a subsidy or grant and is delivered to FHLBank-member financial institutions to assist in the funding for construction, rehabilitation and purchase of affordable housing.

Development Costs refers to the cost of acquiring land or pre-existing housing units, demolition and/or relocation costs, and any costs incurred while constructing, rehabilitating or redeveloping housing.

First Mortgages refers to the volume and value of first-lien position mortgages financed by lenders in a home-purchase activity.

Inflation-Adjusted refers to the measure of return that takes into account the time period's inflation rate. For example, \$100 in 1990 is worth \$192 in 2018. This study reports all economic impacts in inflation-adjusted dollars.

Projects refers to the distinct use of AHP funding for a specific acquisition, construction or rehabilitation of building(s) or housing unit(s).

Total Units refers to the total number of single-family and multifamily units constructed using AHP funding, where each individual dwelling unit in a multifamily building is counted separately.



Native American Connection's Encanto Pointe development was created in 2013 and fully leased within 60 days. Located in Phoenix, Arizona, the project received AHP funding through FHLBank San Francisco member Republic Bank of Arizona.

¹⁰ The research team strongly advises the FHLBanks to conduct recurrent annual economic impact analyses.

Economic Impact Definitions

Gross Domestic Product (GDP) is also known as value added. It includes labor income (described below), other property income and tax on production and imports.

Job Creation includes new full-time, part-time, temporary, permanent, salary-based and fee-based jobs generated by AHP-enhanced Rental, Home Construction and Rehabilitation, and Home Purchases. The production of housing positively impacts employment levels within the construction industry, which involves job titles such as carpenters, electricians, plumbers, construction workers and other individuals who aid in the development or rehabilitation of homes or rental properties.

Labor Income refers to all forms of income that stem from employment, such as salaries and hourly wages, and profits made by developers, builders and contractors. It includes regular earnings, stock options, bonus payments and special payments associated with labor performed based on housing enhanced by AHP. AHP-enhanced housing has a positive impact on labor income, which in turn boosts local economies where AHP housing take place.

Multiplier is the term used for the “economic ripple” effect measured by an economic impact model. These multipliers provide estimates of the number of times each dollar of input, or direct spending, cycles through the economy in terms of indirect and induced economic outputs, or additional spending, personal income and employment. In this case, the multiplier effect accounts for how each additional job or dollar of economic benefit or output, enhanced by AHP funding impacts the construction, rehabilitation and purchases of affordable rental and housing units.

Tax Revenue includes the revenue generated by local, state and federal taxes related to Rental, Home Construction and Rehabilitation, and Home Purchases. Some forms of taxes included in this total are sales taxes on materials purchased for completion of housing units and projects enhanced by AHP funding, income taxes on workers who participated in these projects and taxes on profits that were made by businesses.

Total Economic Benefits measure the economic activities associated with Rental, Home Construction and Rehabilitation, and Home Purchases, enhanced by AHP funding. These benefits include the total sales or revenues within all industries impacted by the housing activity and essentially measure the total output that resulted from AHP-enhanced housing projects. Both Home Purchase activity and the total Rental, Home Construction and Rehabilitation housing activities are taken into account when calculating the total economic benefits.

Economic Model Development/Generation - IMPLAN

After the databases were prepared and determined to be ready for analysis, the research team commenced the economic impact modeling process using IMPLAN (2016).

IMPLAN is a widely accepted, integrated input-output model used extensively by federal, state and local government agencies, and other private and non-profit entities, to measure proposed legislative and other program and policy economic impacts across the private and public sectors.

There are several advantages to using IMPLAN:

- It is calibrated to local conditions using a relatively large amount of local zip-code, congressional district, county level and state-specific data;
- It is based on a strong theoretical foundation, and;
- It uses a well-researched and accepted applied economic-impact assessment methodology supported by many years of use across all regions of the U.S.

The economic impact model(s) used for this analysis were specifically developed for the entire nation, including Washington, D.C. and the five U.S. territories. It includes 536 business sectors (based on the North American Industrial Classification System or NAICS) and the latest dataset available - year 2016 data.¹¹ IMPLAN's principal advantage is that it may be used to estimate direct, indirect and induced economic impacts for any static (point in time) economic stimulus. Through the estimation of economic multipliers, the ripple effects of supply-chain spending for input purchases are captured (indirect impacts), in addition to household spending by employees (induced impacts), for new final demand to the regional economy, as well as direct spending and employment. Economic multipliers for each business sector and household income category are used to estimate the following economic impacts: economic benefits (or output or sales/revenues), employment or job creation (full-time and part-time jobs), labor-income and GDP (or value added), among other economic impacts.

Approximately 2,750 county-specific models were developed and run in order to obtain direct, indirect, induced and total impact multipliers, and results for economic benefits (or output), employment (or job creation), labor income and GDP (or value added). In addition, another 220 IMPLAN models were generated in order to obtain federal taxes, on the one hand, and local and state taxes on the other. Individual economic impact models were generated for each AHP-enhanced funding category: Rental, Home Construction and Rehabilitation, and Home Purchases. The modeling number increased exponentially when the economic analysis focused on sub-state area(s), consisting of Metropolitan Statistical Areas (MSAs), counties and/or congressional districts. There were roughly 10 sub-state areas associated with each of the 11 FHLBank districts.

Economic Model Results Database and File Management

The aggregate results of the economic impact analyses were stored in separate files. Separate economic impact result groupings were categorized by the national, districts, states and sub-state areas. The economic impact results were further combined into the categories: Rental, Home Construction and Rehabilitation, and Home Purchases.

The research team compiled and provided summary data and economic impact results files to the FSU Web Applications Group (FSU WAG) research design team. The research design team used the summary data to create, develop and generate the required deliverables of 178 hard-copy and online reports.¹² The final 178 economic impact reports will be located on the Florida State University Research Computing Center (FSU RCC) server for five years, accessible via a website feature, both for report downloads and for customizable requests for counties (not included in the 178 reports).

¹¹ Year 2016 data were released at the end of November 2017.

¹² The template report design and development was performed by the Florida State University Web Applications Group (FSU WAG), see: <https://nationalmaglab.org/>

Total Economic Impact Results^{13,14}

Economic Basis and Economic Impact Results at the District and State Level

Tables 2 through 5 provide a summary of the inputs and economic impacts related to AHP-enhanced funding program(s), per district.

Table 2. Total Economic Inputs for AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation per District

	INPUT					INFLATION-ADJUSTED INPUT		
	# Projects	# Units	Subsidy	Leverage	Total Cost	Subsidy	Leverage	Total Cost
SAN	2,099	117,459	\$0.87	\$21.25	\$22.12	\$1.10	\$26.83	\$27.94
NY	1,443	66,454	\$0.54	\$9.47	\$10.00	\$0.68	\$11.82	\$12.50
CHI	6,857	58,587	\$0.32	\$7.01	\$7.32	\$0.39	\$8.77	\$9.16
ATL	5,233	84,533	\$0.54	\$7.22	\$7.75	\$0.69	\$9.26	\$9.95
DES	2,405	71,710	\$0.41	\$5.22	\$5.62	\$0.54	\$7.13	\$7.67
BOS	1,014	28,449	\$0.29	\$3.60	\$3.88	\$0.37	\$4.70	\$5.07
CIN	1,892	40,693	\$0.39	\$3.06	\$3.45	\$0.49	\$3.95	\$4.44
PIT	1,190	33,026	\$0.24	\$3.04	\$3.28	\$0.31	\$3.79	\$4.11
TOP	883	37,136	\$0.18	\$2.83	\$3.01	\$0.24	\$3.73	\$3.97
DAL	3,337	37,502	\$0.20	\$1.96	\$2.16	\$0.27	\$2.57	\$2.84
IND	5,278	26,364	\$0.23	\$1.06	\$1.29	\$0.29	\$1.30	\$1.59
Total	31,631	601,913	\$4.19	\$65.71	\$69.90	\$5.37	\$83.86	\$89.23

Table 3. Total Economic Outputs for AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation per District

	OUTPUT			
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED
	Total Impacts	Total Impacts	Total Impacts	Total Impacts
SAN	\$60.30	383,989	\$23.69	\$35.92
NY	\$25.53	170,868	\$10.04	\$14.76
CHI	\$19.18	129,440	\$7.21	\$10.80
ATL	\$18.98	137,708	\$6.75	\$10.24
DES	\$14.51	101,565	\$5.51	\$7.99
BOS	\$9.81	67,368	\$4.06	\$5.46
CIN	\$8.31	62,921	\$2.96	\$4.33
PIT	\$8.06	55,244	\$3.08	\$4.56
TOP	\$7.79	58,597	\$2.87	\$4.12
DAL	\$5.55	41,613	\$2.00	\$2.93
IND	\$3.00	22,407	\$1.08	\$1.56
Total	\$181.00	1,231,721	\$69.24	\$102.66

(in inflation-adjusted billion dollars)

¹³ Small differences in the estimates may occur due to rounding.

¹⁴ Economic impacts include: direct, indirect and induced impacts. Direct impacts measure the immediate effects as a result of AHP- enhanced funding programs in the particular area (district, state, county, sub-state), for example, in employment and income. Indirect impacts are those that include changes to production, employment, income, etc., that occur as a result of the direct effects. Induced impacts are those further impacts of spending derived from direct and indirect activities – e.g., household purchases of consumer goods and services.

Table 4. Total Economic Inputs for AHP-Enhanced Funding for Home Purchases per District

	INPUT			INFLATION-ADJUSTED INPUT	
	# Units	Subsidy	1st Mortgages	Subsidy	1st Mortgages
ATL	23,047	\$0.14	\$2.65	\$0.16	\$3.06
CIN	26,306	\$0.13	\$2.07	\$0.16	\$2.41
DES	28,343	\$0.11	\$1.36	\$0.15	\$1.60
NY	13,464	\$0.10	\$1.11	\$0.11	\$1.22
SAN	7,283	\$0.09	\$0.71	\$0.10	\$0.81
CHI	35,675	\$0.19	\$2.15	\$0.22	\$2.57
TOP	14,028	\$0.06	\$0.69	\$0.07	\$0.81
PIT	12,001	\$0.05	\$0.98	\$0.07	\$1.20
DAL	9,118	\$0.05	\$0.22	\$0.06	\$0.24
BOS	4,442	\$0.04	\$0.35	\$0.05	\$0.40
IND	9,866	\$0.05	\$0.33	\$0.07	\$0.38
Total	183,573	\$1.01	\$12.62	\$1.22	\$14.70

(in inflation-adjusted billion dollars)



Table 5. Total Economic Outputs for AHP-Enhanced Funding for Home Purchases per District

	OUTPUT			
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED
	Total Impacts	Total Impacts	Total Impacts	Total Impacts
ATL	\$7.04	45,620	\$1.72	\$4.68
CIN	\$5.24	38,623	\$1.19	\$3.20
DES	\$4.35	31,693	\$1.01	\$2.65
NY	\$4.13	27,889	\$1.14	\$2.65
SAN	\$3.17	20,013	\$0.85	\$2.12
CHI	\$3.22	21,881	\$0.66	\$2.05
TOP	\$2.63	20,862	\$0.60	\$1.53
PIT	\$2.57	14,602	\$0.61	\$1.80
DAL	\$2.20	15,134	\$0.54	\$1.41
BOS	\$1.40	8,401	\$0.33	\$0.95
IND	\$0.79	5,992	\$0.21	\$0.48
Total	\$36.74	250,710	\$8.85	\$23.51

(in inflation-adjusted billion dollars)

Tables 6 through 9 provide the same summary of inputs and economic impacts per AHP-enhanced funding program, per state.

**Table 6. Total Economic Inputs for AHP-Enhanced Funding
for Rental, Home Construction and Rehabilitation per State**

	INPUT					INFLATION-ADJUSTED INPUT		
	# Projects	# Units	AHP	Leverage	Total Cost	AHP	Leverage	Total Cost
CA	1,681	93,581	\$0.67	\$18.77	\$19.44	\$0.86	\$23.78	\$24.64
NY	893	40,168	\$0.33	\$5.62	\$5.95	\$0.42	\$7.01	\$7.43
IL	2,389	35,191	\$0.18	\$4.74	\$4.92	\$0.24	\$6.03	\$6.26
NJ	502	21,944	\$0.17	\$3.29	\$3.46	\$0.22	\$4.17	\$4.39
PA	896	27,696	\$0.19	\$2.70	\$2.89	\$0.25	\$3.37	\$3.63
OH	732	22,135	\$0.17	\$1.90	\$2.07	\$0.22	\$2.43	\$2.65
FL	509	17,507	\$0.11	\$1.65	\$1.76	\$0.14	\$2.12	\$2.26
MA	479	15,014	\$0.12	\$1.71	\$1.83	\$0.16	\$2.34	\$2.50
TX	921	22,062	\$0.10	\$1.35	\$1.46	\$0.14	\$1.74	\$1.87
CO	282	14,425	\$0.06	\$1.30	\$1.36	\$0.08	\$1.74	\$1.82
WI	4,486	19,521	\$0.12	\$1.74	\$1.86	\$0.15	\$2.10	\$2.25
AZ	223	9,845	\$0.09	\$1.07	\$1.16	\$0.11	\$1.33	\$1.44
WA	407	14,829	\$0.09	\$1.64	\$1.73	\$0.12	\$2.24	\$2.37
MD	194	9,399	\$0.05	\$1.15	\$1.20	\$0.07	\$1.48	\$1.54
MN	494	14,947	\$0.08	\$1.17	\$1.26	\$0.11	\$1.53	\$1.64
VA	621	10,723	\$0.06	\$1.09	\$1.16	\$0.08	\$1.32	\$1.40
KY	655	11,027	\$0.12	\$0.83	\$0.95	\$0.15	\$1.07	\$1.22
GA	856	14,211	\$0.09	\$0.85	\$0.93	\$0.11	\$1.11	\$1.22
NC	377	11,534	\$0.08	\$0.89	\$0.98	\$0.10	\$1.16	\$1.27
IN	1,674	15,327	\$0.15	\$0.78	\$0.93	\$0.19	\$0.92	\$1.12
CT	158	3,856	\$0.05	\$0.64	\$0.69	\$0.06	\$0.83	\$0.88
KS	290	10,521	\$0.05	\$0.69	\$0.75	\$0.07	\$0.89	\$0.96
LA	649	8,258	\$0.05	\$0.63	\$0.68	\$0.07	\$0.77	\$0.84
MI	3,514	13,386	\$0.10	\$0.56	\$0.66	\$0.12	\$0.69	\$0.82
HI	58	2,347	\$0.02	\$0.41	\$0.43	\$0.03	\$0.58	\$0.60
NE	173	6,037	\$0.03	\$0.53	\$0.56	\$0.04	\$0.68	\$0.73
TN	505	9,209	\$0.09	\$0.48	\$0.58	\$0.12	\$0.63	\$0.75
OR	146	5,092	\$0.03	\$0.47	\$0.50	\$0.04	\$0.65	\$0.68
NV	92	5,329	\$0.03	\$0.55	\$0.58	\$0.04	\$0.68	\$0.72
DC	74	4,526	\$0.02	\$0.55	\$0.57	\$0.03	\$0.73	\$0.75
OK	158	7,201	\$0.04	\$0.51	\$0.55	\$0.05	\$0.65	\$0.70
SC	481	8,221	\$0.05	\$0.47	\$0.52	\$0.07	\$0.65	\$0.72
IA	412	9,705	\$0.05	\$0.38	\$0.43	\$0.06	\$0.53	\$0.59
AL	2,083	7,351	\$0.06	\$0.41	\$0.47	\$0.07	\$0.52	\$0.59
MO	334	10,948	\$0.06	\$0.33	\$0.39	\$0.08	\$0.44	\$0.51
ME	153	3,333	\$0.05	\$0.35	\$0.40	\$0.06	\$0.45	\$0.51
RI	57	2,086	\$0.02	\$0.39	\$0.42	\$0.03	\$0.47	\$0.50
NM	170	4,057	\$0.02	\$0.31	\$0.34	\$0.03	\$0.41	\$0.44
MS	862	5,777	\$0.05	\$0.30	\$0.35	\$0.06	\$0.38	\$0.44
NH	82	1,859	\$0.03	\$0.25	\$0.28	\$0.03	\$0.32	\$0.35
AR	870	5,359	\$0.03	\$0.24	\$0.27	\$0.03	\$0.31	\$0.35
DE	100	2,374	\$0.03	\$0.24	\$0.26	\$0.03	\$0.29	\$0.32
UT	61	2,118	\$0.01	\$0.21	\$0.22	\$0.02	\$0.28	\$0.30

**Table 6. Total Economic Inputs for AHP-Enhanced Funding
for Rental, Home Construction and Rehabilitation per State, cont.**

	INPUT					INFLATION-ADJUSTED INPUT		
	# Projects	# Units	AHP	Leverage	Total Cost	AHP	Leverage	Total Cost
VT	86	2,068	\$0.02	\$0.26	\$0.28	\$0.03	\$0.33	\$0.36
MT	83	2,084	\$0.01	\$0.20	\$0.21	\$0.02	\$0.26	\$0.28
AK	46	1,152	\$0.01	\$0.15	\$0.16	\$0.01	\$0.22	\$0.23
SD	196	5,010	\$0.03	\$0.18	\$0.21	\$0.04	\$0.24	\$0.28
ID	73	2,296	\$0.01	\$0.16	\$0.18	\$0.02	\$0.22	\$0.24
PR	27	1,978	\$0.01	\$0.18	\$0.19	\$0.02	\$0.24	\$0.26
ND	87	2,214	\$0.01	\$0.13	\$0.14	\$0.02	\$0.16	\$0.18
WV	222	2,859	\$0.03	\$0.15	\$0.18	\$0.03	\$0.19	\$0.22
VI	5	489	\$0.00	\$0.05	\$0.06	\$0.01	\$0.07	\$0.08
N/A	11	744	\$0.00	\$0.03	\$0.03	\$0.01	\$0.05	\$0.05
WY	39	932	\$0.01	\$0.05	\$0.05	\$0.01	\$0.06	\$0.07
GU	2	27	\$0.00	\$0.01	\$0.01	\$0.00	\$0.02	\$0.02
AS	1	24	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total	31,631	601,913	\$4.19	\$65.71	\$69.90	\$5.37	\$83.86	\$89.23

(in inflation-adjusted billion dollars)



**Table 7. Total Economic Outputs for AHP-Enhanced Funding
for Rental, Home Construction and Rehabilitation per State**

	OUTPUT					
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED	TAX	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
CA	\$52.97	331,445	\$21.11	\$31.92	\$4.04	\$2.20
NY	\$14.96	99,860	\$5.82	\$8.64	\$1.12	\$0.63
IL	\$13.78	90,295	\$5.31	\$8.03	\$1.00	\$0.43
NJ	\$9.30	60,149	\$3.77	\$5.48	\$0.73	\$0.34
PA	\$7.17	48,728	\$2.77	\$4.06	\$0.54	\$0.24
OH	\$5.02	37,085	\$1.80	\$2.65	\$0.36	\$0.19
FL	\$4.98	36,865	\$1.67	\$2.72	\$0.35	\$0.14
MA	\$4.71	29,767	\$2.05	\$2.78	\$0.41	\$0.15
TX	\$4.02	27,481	\$1.54	\$2.24	\$0.30	\$0.12
CO	\$3.73	26,590	\$1.39	\$2.07	\$0.28	\$0.12
WI	\$3.65	26,214	\$1.30	\$1.88	\$0.31	\$0.15
AZ	\$3.56	26,258	\$1.23	\$1.93	\$0.20	\$0.10
WA	\$3.57	22,225	\$1.32	\$1.98	\$0.37	\$0.17
MD	\$3.30	23,166	\$1.23	\$1.85	\$0.22	\$0.11
MN	\$3.21	22,684	\$1.28	\$1.79	\$0.26	\$0.13
VA	\$2.36	17,715	\$0.80	\$1.21	\$0.19	\$0.08
KY	\$2.31	18,121	\$0.78	\$1.17	\$0.14	\$0.07
GA	\$2.24	15,965	\$0.79	\$1.23	\$0.17	\$0.07

**Table 7. Total Economic Outputs for AHP-Enhanced Funding
for Rental, Home Construction and Rehabilitation per State, cont.**

	OUTPUT					
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED	TAX	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
NC	\$2.22	17,991	\$0.73	\$1.05	\$0.17	\$0.07
IN	\$2.10	16,110	\$0.75	\$1.06	\$0.15	\$0.06
CT	\$1.99	13,580	\$0.84	\$1.13	\$0.15	\$0.07
KS	\$1.81	14,266	\$0.63	\$0.94	\$0.12	\$0.06
LA	\$1.68	12,842	\$0.62	\$0.86	\$0.11	\$0.05
MI	\$1.63	11,663	\$0.59	\$0.89	\$0.11	\$0.06
HI	\$1.50	9,774	\$0.58	\$0.92	\$0.08	\$0.04
NE	\$1.46	11,094	\$0.59	\$0.76	\$0.10	\$0.04
TN	\$1.48	11,323	\$0.56	\$0.76	\$0.11	\$0.04
OR	\$1.45	10,415	\$0.56	\$0.80	\$0.10	\$0.04
NV	\$1.40	9,639	\$0.49	\$0.76	\$0.10	\$0.04
DC	\$1.29	7,358	\$0.57	\$0.81	\$0.07	\$0.03
OK	\$1.32	10,156	\$0.47	\$0.66	\$0.09	\$0.04
SC	\$1.30	9,595	\$0.43	\$0.69	\$0.09	\$0.04
IA	\$1.23	9,161	\$0.46	\$0.66	\$0.07	\$0.03
AL	\$1.12	9,039	\$0.37	\$0.54	\$0.07	\$0.04
MO	\$1.11	8,334	\$0.41	\$0.53	\$0.07	\$0.03
ME	\$0.99	8,057	\$0.35	\$0.47	\$0.06	\$0.04
RI	\$0.91	6,189	\$0.34	\$0.51	\$0.07	\$0.03
NM	\$0.82	6,748	\$0.26	\$0.41	\$0.05	\$0.02
MS	\$0.77	6,310	\$0.25	\$0.37	\$0.05	\$0.03
NH	\$0.72	5,568	\$0.31	\$0.36	\$0.06	\$0.02
AR	\$0.68	5,446	\$0.22	\$0.34	\$0.04	\$0.02
DE	\$0.65	4,464	\$0.23	\$0.38	\$0.04	\$0.02
UT	\$0.63	4,593	\$0.22	\$0.35	\$0.04	\$0.02
VT	\$0.57	4,684	\$0.21	\$0.24	\$0.05	\$0.03
MT	\$0.51	4,143	\$0.18	\$0.25	\$0.03	\$0.01
AK	\$0.48	3,171	\$0.21	\$0.28	\$0.03	\$0.01
SD	\$0.49	3,914	\$0.18	\$0.24	\$0.04	\$0.01
ID	\$0.47	3,833	\$0.15	\$0.23	\$0.03	\$0.01
PR	\$0.41	3,951	\$0.16	\$0.22	\$0.05	\$0.02
ND	\$0.32	2,216	\$0.12	\$0.17	\$0.02	\$0.01
WV	\$0.33	2,380	\$0.11	\$0.17	\$0.02	\$0.01
VI	\$0.12	1,150	\$0.05	\$0.06	\$0.01	\$0.01
N/A	\$0.13	832	\$0.04	\$0.07	\$0.01	\$0.00
WY	\$0.10	798	\$0.03	\$0.05	\$0.01	\$0.00
GU	\$0.03	303	\$0.01	\$0.02	\$0.00	\$0.00
AS	\$0.00	16	\$0.00	\$0.00	\$0.00	\$0.00
Total	\$181.00	1,231,721	\$69.24	\$102.66	\$13.44	\$6.54

(in inflation-adjusted billion dollars)

Table 8. Total Economic Inputs for AHP-Enhanced Funding for Home Purchases per State

	INPUT			INFLATION-ADJUSTED INPUT	
	# Units	AHP	1st Mortgages	AHP	1st Mortgages
NY	12,787	\$0.09	\$1.03	\$0.11	\$1.14
OH	15,085	\$0.07	\$1.14	\$0.08	\$1.33
MD	6,617	\$0.04	\$0.90	\$0.04	\$1.02
PA	10,007	\$0.04	\$0.79	\$0.05	\$0.95
VA	6,521	\$0.04	\$0.90	\$0.05	\$1.01
IL	19,010	\$0.10	\$1.22	\$0.12	\$1.45
CA	2,853	\$0.04	\$0.34	\$0.04	\$0.39
KY	6,121	\$0.03	\$0.52	\$0.04	\$0.61
WI	16,486	\$0.09	\$0.90	\$0.10	\$1.08
AZ	3,225	\$0.04	\$0.28	\$0.04	\$0.32
MN	3,830	\$0.01	\$0.25	\$0.02	\$0.30
NE	5,376	\$0.02	\$0.33	\$0.03	\$0.38
IA	5,936	\$0.02	\$0.30	\$0.02	\$0.36
TX	4,010	\$0.02	\$0.10	\$0.03	\$0.12
NC	3,511	\$0.02	\$0.32	\$0.03	\$0.39
TN	3,713	\$0.02	\$0.30	\$0.02	\$0.35
KS	5,154	\$0.02	\$0.26	\$0.03	\$0.30
MA	2,136	\$0.02	\$0.19	\$0.02	\$0.22
FL	1,957	\$0.01	\$0.13	\$0.01	\$0.16
IN	5,674	\$0.03	\$0.26	\$0.04	\$0.29
MO	3,745	\$0.01	\$0.10	\$0.02	\$0.12
GA	2,303	\$0.01	\$0.22	\$0.02	\$0.25
NJ	1,106	\$0.01	\$0.09	\$0.01	\$0.10
DE	1,537	\$0.01	\$0.17	\$0.01	\$0.22
AR	2,084	\$0.01	\$0.05	\$0.01	\$0.06
OK	2,299	\$0.01	\$0.07	\$0.01	\$0.09
CO	1,260	\$0.00	\$0.05	\$0.01	\$0.06
LA	1,256	\$0.01	\$0.03	\$0.01	\$0.04
SC	1,443	\$0.01	\$0.13	\$0.01	\$0.16
SD	1,511	\$0.00	\$0.12	\$0.00	\$0.14
MS	1,424	\$0.01	\$0.02	\$0.01	\$0.03
MI	4,600	\$0.03	\$0.13	\$0.03	\$0.15
WA	3,013	\$0.02	\$0.13	\$0.02	\$0.15
NV	811	\$0.01	\$0.09	\$0.01	\$0.10
NM	589	\$0.00	\$0.02	\$0.00	\$0.02
OR	1,782	\$0.01	\$0.09	\$0.01	\$0.10
ME	815	\$0.01	\$0.03	\$0.01	\$0.04
AK	912	\$0.00	\$0.04	\$0.00	\$0.04
DC	296	\$0.00	\$0.01	\$0.00	\$0.02
UT	2,121	\$0.01	\$0.10	\$0.01	\$0.12
CT	482	\$0.01	\$0.04	\$0.01	\$0.05
AL	656	\$0.00	\$0.05	\$0.00	\$0.06
MT	1,864	\$0.01	\$0.10	\$0.01	\$0.11
ID	327	\$0.01	\$0.08	\$0.01	\$0.09

Table 8. Total Economic Inputs for AHP-Enhanced Funding for Home Purchases per State, cont.

	INPUT			INFLATION-ADJUSTED INPUT	
	# Units	AHP	1st Mortgages	AHP	1st Mortgages
RI	1,928	\$0.00	\$0.02	\$0.00	\$0.02
VT	538	\$0.01	\$0.05	\$0.01	\$0.06
ND	419	\$0.00	\$0.02	\$0.00	\$0.02
NH	174	\$0.00	\$0.02	\$0.00	\$0.02
HI	144	\$0.00	\$0.01	\$0.00	\$0.01
PR	403	\$0.00	\$0.03	\$0.00	\$0.03
WY	547	\$0.00	\$0.03	\$0.00	\$0.03
WV	244	\$0.00	\$0.01	\$0.00	\$0.01
N/A*	907	\$0.00	\$0.00	\$0.00	0
GU	24	\$0.00	\$0.00	\$0.00	0
Total	183,573	\$1.01	\$12.62	\$1.22	\$14.70



Table 9. Total Economic Outputs for AHP-Enhanced Funding for Home Purchases per State

	OUTPUT					
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED	TAX	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
NY	\$3.86	26,416	\$1.07	\$2.46	\$0.18	\$0.18
OH	\$2.85	21,122	\$0.63	\$1.73	\$0.14	\$0.11
MD	\$2.41	14,780	\$0.65	\$1.66	\$0.11	\$0.08
PA	\$2.02	11,389	\$0.48	\$1.42	\$0.10	\$0.10
VA	\$2.01	12,886	\$0.44	\$1.34	\$0.10	\$0.07
IL	\$1.80	13,165	\$0.47	\$1.14	\$0.10	\$0.10
CA	\$1.56	9,070	\$0.45	\$1.11	\$0.08	\$0.05
KY	\$1.32	9,612	\$0.29	\$0.82	\$0.06	\$0.04
WI	\$1.39	8,333	\$0.19	\$0.92	\$0.10	\$0.11
AZ	\$1.17	8,228	\$0.31	\$0.73	\$0.05	\$0.02
MN	\$1.07	8,170	\$0.28	\$0.62	\$0.06	\$0.05
NE	\$1.06	8,373	\$0.26	\$0.62	\$0.05	\$0.05
IA	\$1.01	7,338	\$0.23	\$0.62	\$0.04	\$0.04
TX	\$0.97	6,550	\$0.26	\$0.61	\$0.05	\$0.04
NC	\$0.84	5,590	\$0.19	\$0.54	\$0.04	\$0.02
TN	\$0.79	5,757	\$0.19	\$0.48	\$0.04	\$0.02
KS	\$0.79	6,541	\$0.17	\$0.45	\$0.04	\$0.03
MA	\$0.76	4,430	\$0.19	\$0.53	\$0.04	\$0.04
FL	\$0.68	4,945	\$0.16	\$0.42	\$0.03	\$0.02
IN	\$0.62	4,756	\$0.16	\$0.37	\$0.03	\$0.02
MO	\$0.65	4,958	\$0.14	\$0.38	\$0.03	\$0.02
GA	\$0.62	4,670	\$0.14	\$0.38	\$0.03	\$0.02
NJ	\$0.44	2,724	\$0.12	\$0.30	\$0.02	\$0.03
DE	\$0.45	2,534	\$0.10	\$0.32	\$0.02	\$0.02

Table 9. Total Economic Outputs for AHP-Enhanced Funding for Home Purchases per State, cont.

	OUTPUT					
	TOTAL ECONOMIC BENEFIT	JOB CREATION	LABOR INCOME	TOTAL VALUE ADDED	TAX	
AR	\$0.43	2,916	\$0.11	\$0.28	\$0.02	\$0.01
OK	\$0.41	3,295	\$0.09	\$0.23	\$0.02	\$0.01
CO	\$0.38	2,817	\$0.09	\$0.23	\$0.02	\$0.01
LA	\$0.34	2,509	\$0.08	\$0.21	\$0.01	\$0.01
SC	\$0.34	2,361	\$0.08	\$0.22	\$0.02	\$0.01
SD	\$0.33	2,328	\$0.07	\$0.21	\$0.02	\$0.01
MS	\$0.30	2,091	\$0.07	\$0.20	\$0.01	\$0.01
MI	\$0.29	2,213	\$0.07	\$0.17	\$0.02	\$0.01
WA	\$0.25	1,499	\$0.04	\$0.17	\$0.02	\$0.01
NV	\$0.23	1,529	\$0.04	\$0.14	\$0.01	\$0.01
NM	\$0.21	1,369	\$0.04	\$0.14	\$0.01	\$0.00
OR	\$0.20	1,249	\$0.05	\$0.14	\$0.01	\$0.01
ME	\$0.20	1,366	\$0.04	\$0.13	\$0.01	\$0.01
AK	\$0.18	1,085	\$0.06	\$0.13	\$0.01	\$0.01
DC	\$0.17	768	\$0.06	\$0.13	\$0.01	\$0.01
UT	\$0.18	1,516	\$0.04	\$0.10	\$0.01	\$0.00
CT	\$0.17	1,060	\$0.05	\$0.11	\$0.01	\$0.01
AL	\$0.14	1,037	\$0.03	\$0.09	\$0.01	\$0.00
MT	\$0.13	1,057	\$0.03	\$0.08	\$0.01	\$0.00
ID	\$0.10	768	\$0.02	\$0.06	\$0.00	\$0.00
RI	\$0.10	576	\$0.02	\$0.07	\$0.00	\$0.01
VT	\$0.10	581	\$0.01	\$0.07	\$0.01	\$0.01
ND	\$0.07	530	\$0.02	\$0.04	\$0.00	\$0.00
NH	\$0.07	445	\$0.02	\$0.04	\$0.00	\$0.00
HI	\$0.06	346	\$0.02	\$0.04	\$0.00	\$0.00
PR	\$0.07	341	\$0.01	\$0.04	\$0.01	\$0.00
WY	\$0.05	369	\$0.01	\$0.03	\$0.00	\$0.00
WV	\$0.02	152	\$0.00	\$0.01	\$0.00	\$0.00
N/A*	\$0.02	123	\$0.00	\$0.01	\$0.00	\$0.00
GU	\$0.02	80	\$0.00	\$0.01	\$0.00	\$0.00
Total	\$36.74	250,710	\$8.85	\$23.51	\$1.81	\$1.44

(in inflation-adjusted billion dollars)

The broader impact(s) of both categories of AHP-enhanced activities are partially shown in Table 10, where the top 30 impacted industries are listed. (Gold shading shows higher levels and gray shading shows lower levels of impact.)

Table 10. Top 30 Industries Impacted by AHP-Enhanced Funding for Rental and Owner Housing Activities

Sector	Description	Total Economic Benefit (\$)	Job Creation	Labor Income (\$)	Value Added (\$)
60	Construction of new multifamily residential structures	\$75.64	463,867	\$27.39	\$35.68
59	Construction of new single-family residential structures	\$17.53	119,568	\$6.59	\$10.33
395	Wholesale trade	\$9.83	40,230	\$3.40	\$6.59
440	Real estate	\$7.77	36,624	\$0.93	\$5.64
482	Hospitals	\$3.32	20,945	\$1.67	\$1.93
461	Management of companies and enterprises	\$3.12	12,587	\$1.55	\$1.92
449	Architectural, engineering and related services	\$2.79	16,340	\$1.53	\$1.52
401	Retail - Health and personal care stores	\$2.32	23,920	\$1.03	\$1.49
399	Retail - Building material and garden equipment and supplies stores	\$2.42	23,259	\$0.96	\$1.53
411	Truck transportation	\$3.07	18,846	\$1.11	\$1.35
206	Ready-mix concrete manufacturing	\$4.40	11,256	\$0.78	\$1.17
403	Retail - Clothing and clothing accessories stores	\$2.09	24,116	\$0.65	\$1.30
475	Offices of physicians	\$1.89	12,675	\$1.30	\$1.28
406	Retail - Miscellaneous store retailers	\$1.27	30,688	\$0.70	\$0.81
407	Retail - Non-store retailers	\$2.46	17,618	\$0.48	\$1.49
464	Employment services	\$1.61	19,981	\$0.82	\$1.22
502	Limited-service restaurants	\$2.04	23,614	\$0.48	\$1.18
501	Full-service restaurants	\$1.36	26,512	\$0.66	\$0.74
398	Retail - Electronics and appliance stores	\$1.03	16,312	\$0.88	\$0.65
402	Retail - Gasoline stores	\$1.16	15,935	\$0.60	\$0.74
405	Retail - General merchandise stores	\$1.16	16,007	\$0.47	\$0.76
436	Other financial investment activities	\$2.03	10,923	\$0.53	\$0.66
454	Management consulting services	\$1.18	9,142	\$0.78	\$0.76
400	Retail - Food and beverage stores	\$0.91	12,940	\$0.41	\$0.61
404	Retail - Sporting goods, hobby, musical instrument and bookstores	\$0.76	14,149	\$0.35	\$0.49
397	Retail - Furniture and home furnishings stores	\$0.98	9,107	\$0.38	\$0.62
468	Services to buildings	\$0.55	13,258	\$0.31	\$0.35
503	All other food and drinking places	\$0.53	12,155	\$0.36	\$0.31
485	Individual and family services	\$0.40	11,758	\$0.30	\$0.27
469	Landscape and horticultural services	\$0.53	9,350	\$0.28	\$0.33

(in inflation-adjusted billion dollars)

Economic Basis and Economic Impact Results at the National Level

The FHLBanks' national data aggregated over the timespan of AHP-enhanced funding program(s) are provided in Tables 11 and 12 (in inflation-adjusted billion dollars).

Table 11. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities Inputs

FHLBanks' Funding Source Category	INPUT					INFLATION-ADJUSTED INPUT		
	# Projects	# Units	AHP	Leverage	Total Cost	AHP	Leverage	Total Cost
Rental/ Construction/ Rehabilitation	31,631	601,913	\$4.19	\$65.71	\$69.90	\$5.37	\$83.86	\$89.23

Table 12. National AHP-Enhanced Funding for Home Purchases Inputs

FHLBanks' Funding Source Category	INPUT			INFLATION-ADJUSTED INPUT	
	# Units	AHP	1st Mortgages	AHP	1st Mortgages
Home Purchases	183,573	\$1.01	\$12.62	\$1.22	\$14.70



Homeownership Set-aside Program; nine lenders in Columbus, Nebraska helped sponsor the building of this new neighborhood of more than 40 homes.

Tables 13 through 22 (and Figures 1 and 2) depict the direct, indirect, induced and total economic impacts of AHP-enhanced funding on economic benefits, job creation, labor income, gross domestic product and tax revenues per program (Rental, Home Construction and Rehabilitation, and Home Purchases; in inflation-adjusted billion dollars).¹⁵

Table 13. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities, in Direct, Indirect, Induced and Total Economic Benefits

FHLBanks' Funding Source Category	Total Economic Benefits			
	Direct	Indirect	Induced	Total Impacts
Rental/ Construction/ Rehabilitation	\$89.23	\$24.94	\$66.83	\$181.00

(in inflation-adjusted billion dollars)

Table 14. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Economic Benefits

FHLBanks' Funding Source Category	Total Economic Benefits			
	Direct	Indirect	Induced	Total Impacts
Home Purchases	\$18.60	\$4.56	\$13.58	\$36.74

(in inflation-adjusted billion dollars)

Table 15. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities in Direct, Indirect, Induced and Total Employment Impacts

FHLBanks' Funding Source Category	Job Creation			
	Direct	Indirect	Induced	Total Impacts
Rental/ Construction/ Rehabilitation	550,588	196,045	485,088	1,231,721

Table 16. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Impacts

FHLBanks' Funding Source Category	Job Creation			
	Direct	Indirect	Induced	Total Impacts
Home Purchases	108,865	36,403	105,442	250,710

¹⁵ Using IMPLAN economic modeling software. See: <http://www.implan.com>. IMPLAN is a widely accepted, integrated input-output model used extensively by federal, state and local government agencies to measure economic impacts of proposed legislative and other programs and policies across the private and public sectors. Economic impacts include: direct, indirect and induced impacts. Direct impacts measure the immediate effects as a result of AHP-enhanced funding programs in the particular area (district, state, county, sub-state), for example in employment and income. Indirect impacts are those that include changes to production, employment, income, etc., that occur as a result of the direct effects. Induced impacts are those further impacts of spending derived from direct and indirect activities - e.g., household purchases of consumer goods and services.

Table 17. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities in Direct, Indirect, Induced and Total Labor Income Impacts

FHLBanks' Funding Source Category	Labor Income			
	Direct	Indirect	Induced	Total Impacts
Rental/ Construction/ Rehabilitation	\$33.16	\$9.57	\$26.51	\$69.24

(in inflation-adjusted billion dollars)

Table 18. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Labor Income Impacts

FHLBanks' Funding Source Category	Labor Income			
	Direct	Indirect	Induced	Total Impacts
Home Purchases	\$1.95	\$1.43	\$5.47	\$8.85

(in inflation-adjusted billion dollars)

Table 19. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities in Direct, Indirect, Induced and Total Gross Domestic Product Impacts

FHLBanks' Funding Source Category	Gross Domestic Product (GDP)			
	Direct	Indirect	Induced	Total Impacts
Rental/ Construction/ Rehabilitation	\$44.86	\$14.71	\$43.09	\$102.66

(in inflation-adjusted billion dollars)

Table 20. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Gross Domestic Product Impacts

FHLBanks' Funding Source Category	Gross Domestic Product (GDP)			
	Direct	Indirect	Induced	Total Impacts
Home Purchases	\$12.32	\$2.54	\$8.65	\$23.51

(in inflation-adjusted billion dollars)

Table 21. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities in Direct, Indirect, Induced and Total Tax Revenues

FHLBanks' Funding Source Category	Tax Revenues	
	Federal	State and Local
Rental/ Construction/ Rehabilitation	\$13.44	\$6.54

(in inflation-adjusted billion dollars)

Table 22. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Tax Revenues

FHLBanks' Funding Source Category	Tax Revenues	
	Federal	State and Local
Home Purchases	\$1.81	\$1.44

(in inflation-adjusted billion dollars)



The Grove at Riverside is a 48-unit, affordable family apartment community in Rexburg, Idaho. Construction on the project was completed in 2015. Walkscore.com gave the site a score of 91 and calls it a “Walker’s Paradise.” The sponsor is Community Development, Inc.

Figure 1. National AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities in Direct, Indirect, Induced and Total Impacts

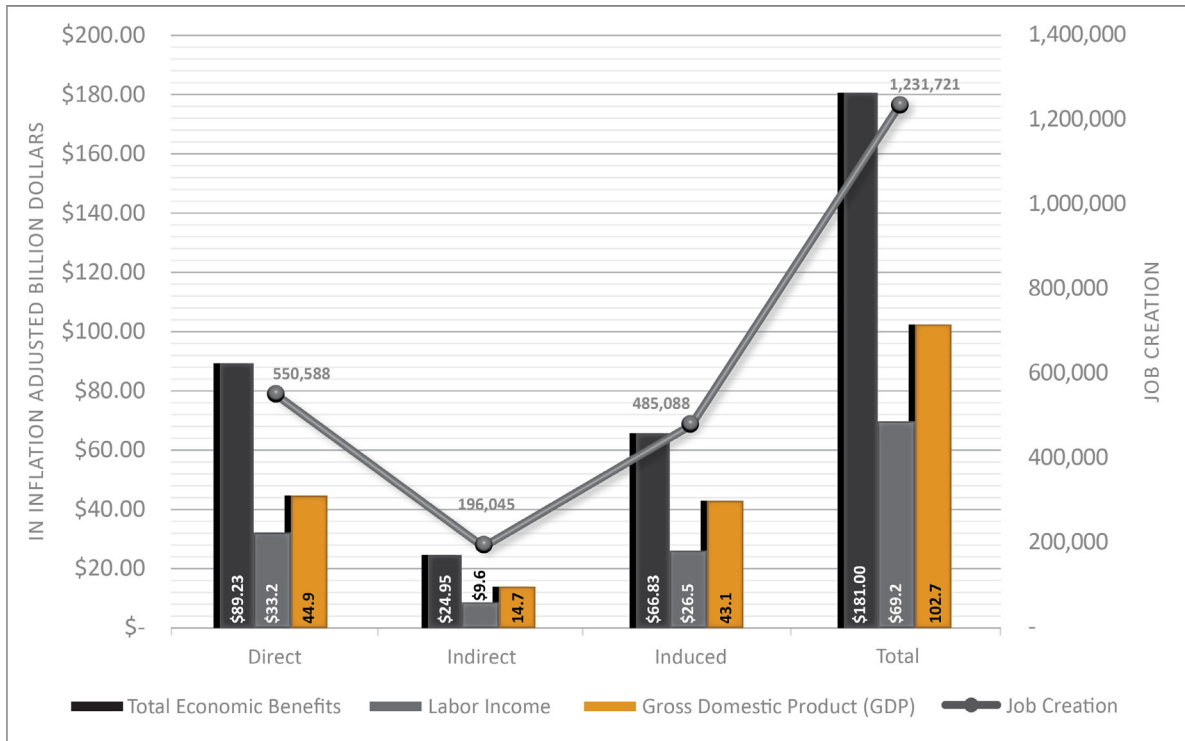


Figure 2. National AHP-Enhanced Funding for Home Purchases in Direct, Indirect, Induced and Total Impacts

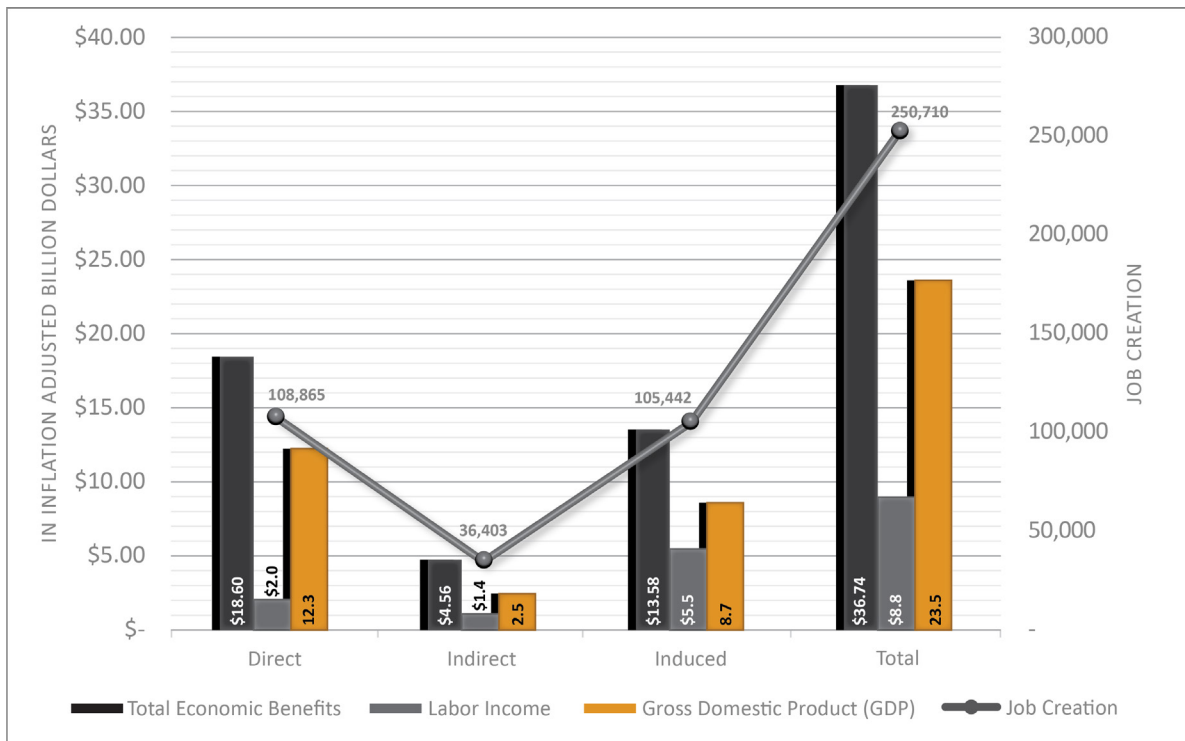
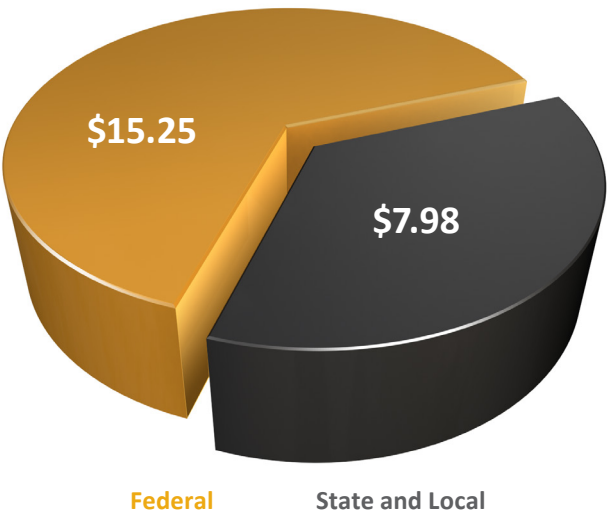


Figure 3 shows the shares of total tax revenue from state and local taxes and from federal taxes due to AHP-enhanced funding.

Figure 3. Total Tax Revenue (in inflation-adjusted billion dollars)



Completed over multiple phases, the 2003 AHP-funded Hale Mahaolu Ehiku project was the first affordable rental housing project in Kihei, Maui for seniors. The member is the Bank of Hawaii, and the sponsor is Hale Mahaolu.

Tables 23 and 24 show the total economic impacts, expressed in inflation-adjusted billion dollars, in total economic benefits, job creation, labor income, GDP, and tax revenues of federal, state and local governments. The tables present the economic impact results based on two categories of AHP-enhanced funding: Rental, Home Construction and Rehabilitation, and Home Purchases.

In summary, over time,¹⁶ the total economic benefits are estimated to be \$217.74 billion, \$78.09 billion in labor income, \$126.17 billion in GDP, 1.48 million full-time and part-time jobs, and \$23.24 billion in federal, state and local taxes.

Table 23. National Total Economic Impacts AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Rental/Home Construction/Rehabilitation	\$181.00	1,231,721	\$69.24	\$102.66	\$13.44	\$6.54

(in inflation-adjusted billion dollars)

Table 24. National Total Economic Impacts AHP-Enhanced Funding for Home Purchases

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Home Purchases	\$36.74	250,710	\$8.85	\$23.51	\$1.81	\$1.44

(in inflation-adjusted billion dollars)

Tables 25 and 26 depict the multiplier effects for the two programs. The leveraging effects include the FHLBanks' AHP-enhanced and leveraged funding. The multiplier effects are based on the IMPLAN factors. In summary, AHP-enhanced funding is an important contributor to the nation's economy, both directly and indirectly, through AHP-enhanced spending in the residential Rental, Home Construction and Rehabilitation, and Home Purchases industries. The tables show that for every dollar of AHP-enhanced funding, there is a multiplier effect of \$33.68 in Rental, Home Construction and Rehabilitation and a multiplier effect of \$30.04 in Home Purchases.

Table 25. The Leveraging and Multiplier Effects of AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Rental/Home Construction/Rehabilitation	\$15.60	2.0284	\$33.68

In inflation-adjusted billion dollars

Table 26. The Leveraging and Multiplier Effects of AHP-Enhanced Funding for Home Purchases

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Home Purchases	\$14.21	1.9750	\$30.04

In inflation-adjusted billion dollars

¹⁶ Based on the FHLBanks' data for: Competitive Years 1990 – 2016, and for Set-aside depending on program availability 1995 – 2016 see Study Methodology and Appendices report.

Rental, Home Construction and Rehabilitation Economic Impact Results

The economic impacts associated with AHP Rental, Home Construction and Rehabilitation type, or category, are presented on the following page. The total impacts included are economic benefits, jobs, labor income, GDP and tax revenues.

The total economic impacts of the Rental, Home Construction and Rehabilitation type include economic benefits of \$181.00 billion. The job impacts are 1,231,721 full- and part-time workers, generating \$69.24 billion in labor income. The value of added GDP is estimated at \$102.66 billion. The tax revenues for federal as well as state and local governments constitute \$13.44 billion and \$6.54 billion, respectively.

ECONOMIC IMPACTS OF AHP-ENHANCED RENTAL, HOME CONSTRUCTION AND REHABILITATION ACTIVITIES



\$181.00 BILLION
TOTAL ECONOMIC BENEFITS



1,231,721 JOBS
JOB CREATION



\$69.24 BILLION
LABOR INCOME



\$102.66 BILLION
GDP



\$13.44 BILLION
FEDERAL TAX REVENUE



\$6.54 BILLION
STATE AND LOCAL TAX REVENUE

In inflation-adjusted dollars
Small differences in the estimates may occur due to rounding.

Home Purchase Economic Impact Results

The economic impacts associated with the FHLBanks' Home Purchases category is shown below. The total impacts included are total economic benefits, jobs, labor income, GDP and tax revenues. The total economic benefit of Home Purchases is estimated at \$36.74 billion. The total number of jobs is 250,710. Investment in Home Purchases projects generates \$8.85 billion in total labor income. The GDP total added value is \$23.51 billion, while tax totals \$3.25 billion, for combined federal, state and local revenues.

ECONOMIC IMPACTS OF AHP-ENHANCED HOME PURCHASES



\$36.74 BILLION
TOTAL ECONOMIC BENEFITS



250,710 JOBS
JOB CREATION



\$8.85 BILLION
LABOR INCOME



\$23.51 BILLION
GDP



\$1.81 BILLION
FEDERAL TAX REVENUE



\$1.44 BILLION
STATE AND LOCAL TAX REVENUE

In inflation-adjusted dollars
Small differences in the estimates may occur due to rounding.

Conclusions

The FSU CEFA study team received, reviewed, cleaned and analyzed data provided by each of the 11 FHLBanks. The data pertains to AHP funding, leveraging and the total costs associated with AHP-enhanced development projects and home purchases. The inflation-adjusted data were used as inputs to the IMPLAN economic models. Tables 27 and 28 show the cumulative economic impacts expressed in total economic benefits, job creation, labor income, GDP, and tax revenues of federal, state and local governments (all in inflation-adjusted billion dollars) based on the categories Rental, Home Construction and Rehabilitation, and Home Purchases.

Table 27. National Total Economic Impacts of AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Rental/Home Construction/Rehabilitation	\$181.00	1,231,721	\$69.24	\$102.66	\$13.44	\$6.54

(in inflation-adjusted billion dollars)

Small differences in the estimates may occur due to rounding.

Table 28. National Total Economic Impacts of AHP-Enhanced Funding for Home Purchases

FHLBanks' Funding Source Category	Total Economic Benefits	Job Creation	Labor Income	GDP	Tax Revenues	
	Total Impacts	Total Impacts	Total Impacts	Total Impacts	Federal	State and Local
Home Purchases	\$36.74	250,710	\$8.85	\$23.51	\$1.81	\$1.44

(in inflation-adjusted billion dollars)

Small differences in the estimates may occur due to rounding.

In summary, from years 1990 to 2016, the total economic benefits are estimated to be \$217.74 billion, \$78.09 billion in labor income, \$126.17 billion in GDP, more than 1.48 million full-time and part-time jobs and \$23.24 billion in combined federal, state and local taxes.



Construction underway in Maine enhanced with funding from the Affordable Housing Program.

The multiplier effects for the two categories are depicted in Tables 29 and 30. The leveraging effects include AHP-enhanced and leveraged funding. The tables show that that for every dollar of AHP-enhanced funding, there is a multiplier effect of \$33.68 in Rental, Home Construction and Rehabilitation and a multiplier effect of \$30.04 in Home Purchases.

In summary, AHP-enhanced rental and owner-occupied housing is an important contributor to the nation’s economy both directly and indirectly, through AHP-enhanced spending on the residential Rental, Home Construction and Rehabilitation, and Home Purchases industries.

Table 29. The Leveraging and Multiplier Effects of AHP-Enhanced Funding for Rental, Home Construction and Rehabilitation Activities

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Rental/Home Construction/Rehabilitation	\$15.60	2.0284	\$33.68

Small differences in the estimates may occur due to rounding.

Table 30. The Leveraging and Multiplier Effects of AHP-Enhanced Funding for Home Purchases

FHLBanks' Funding Source Category	Leveraging Effect	IMPLAN Factor	Multiplier Effect
Home Purchases	\$14.21	1.9750	\$30.04

Small differences in the estimates may occur due to rounding.



The Huerta family purchased their home in Stockton, California, through Visionary Homebuilders’ lease-to-own program, with down payment assistance from FHLBank San Francisco’s IDEA First-Time Homebuyer Program.



References

- Advisory Commission on Intergovernmental Relations. (1973). *Regional Decision Making: New Strategies for Substate Districts. Substate Regionalism and the Federal System*. Washington, D.C.: United States Advisory Commission on Intergovernmental Relations.
<https://digital.library.unt.edu/ark:/67531/metadc1383/>
- Cox, W. & Hugh, P. (2017). 13th Annual Demographia International Housing Affordability Survey: 2017. *Demographia*. http://demographia.com/media_rls_2017.pdf
- Federal Home Loan Bank Affordable Housing and Community Investment. (2017).
<https://www.fhfa.gov/PolicyProgramsResearch/Programs/AffordableHousing/Pages/Affordable-Housing-Home-Loan-Banks.aspx>
- Federal Home Loan Bank of Pittsburgh. (2016). Affordable Housing Program 2016 Implementation Plan.
https://housingalliancepa.org/wp-content/uploads/2016/05/FHL_Bank_Affordable_Housing_Implementation.pdf
- Federal Home Loan Banks. (2016). Affordable Housing. <http://www.fhlbanks.com/affordable-housing.html>
- Federal Home Loan Banks Office of Finance. (2017). Affordable Housing Program.
http://www.fhlb-of.com/ofweb_userWeb/pageBuilder/affordable-housing-programs-33
- Federal Housing Finance Agency. (2017). The Federal Home Loan Bank System.
<https://www.fhfa.gov/SupervisionRegulation/FederalHomeLoanBanks/Pages/About-FHL-Banks.aspx>
- The Hendrickson Company in conjunction with The Shimberg Center for Housing Studies, University of Florida. (2010). *Beyond Units: Economic Benefits of Federal Home Loan Bank of Atlanta's Affordable Housing Program*. <http://www.fhlbatl.com/multiplier/beyondunits.pdf>
- Jan, T. (2017). America's Affordable-Housing Stock Dropped by 60 Percent from 2010 to 2016. *The Washington Post*. https://www.washingtonpost.com/news/wonk/wp/2017/10/23/americas-affordable-housing-stock-dropped-by-60-percent-from-2010-to-2016/?utm_term=.842def2d4300
- Januta, A. (2017). Business Leaders Propose Solutions to Traffic and Lack of Housing Affordability. *Miami Herald*.
<http://www.miamiherald.com/news/business/article154971774.html>
- Joint Center for Housing Studies of Harvard University. (2017). The State of the Nation's Housing.
http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/harvard_jchs_state_of_the_nations_housing_2017.pdf
- Layfield, D. (2018). Common Questions about Affordable Housing. *Affordable Housing Online*.
<https://affordablehousingonline.com/housing-common-questions>
- McLaughlin, R. (2017). The Housing Recovery That Wasn't. Trulia.
<https://www.trulia.com/blog/trends/home-value-recovery-2017/>

Shimberg Center for Housing Studies. (2017). Florida's Affordable Rental Housing Needs: An Update. University of Florida. http://www.shimberg.ufl.edu/publications/FL_2017_RMS_fact_sheet.pdf

Summerville, A. (2017). There are more renters than any time since 1965. 20 July 2017. Consumer News and Business Channel (CNBC). <https://www.cnbc.com/2017/07/20/there-are-more-renters-than-any-time-since-1965.html>

U.S. Department of Housing and Urban Development's Office of Policy Development and Research. (2014). Rental Burdens: Rethinking Affordability Measures. *Feature Article*. https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html