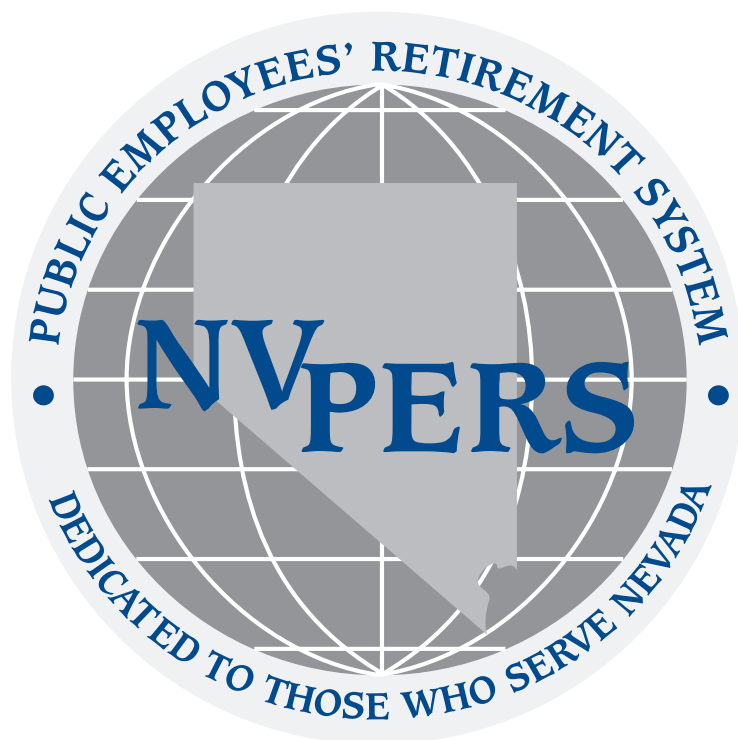


ECONOMIC IMPACT FOR NEVADA



MARCH 2013

The Economic Impact of Nevada PERS

Prepared for:
Nevada Public Employees Retirement System

By:
National Institute on Retirement Security
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About the Authors

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Executive Summary

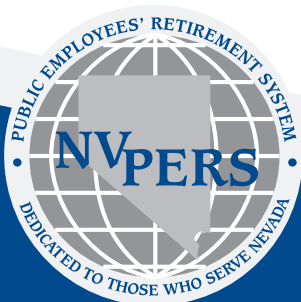
Between 2000 and 2008, Nevada was the fastest growing state in the nation, with gross state product (GSP) increasing at an annual rate of 7.2%. Since then, however, the situation has changed. Nevada was hit especially hard by the housing market collapse and financial crisis; the state economy contracted by 5.6% between 2008 and 2009.¹ By 2010, Nevada was still reeling from the financial crisis; its economy further contracted by 0.2%—making it one of just two states with shrinking GSP that year—with the depressed construction and tourism industries continuing to exert a significant drag on overall economic activity.² Consequently, Nevada had the highest unemployment rate in the country in 2010, peaking at 14.0% in October.³

Throughout this period, public sector defined benefit (DB) pension payments have served as a continuing stimulus to the Nevada economy. In particular, approximately 160,000 active, inactive, and retired public employees—including teachers, public safety personnel, and others who provide key public services in the state—receive defined benefit (DB) pension benefits from the Nevada Public Employees Retirement System (PERS). In general, DB pension benefits are highly valued by the American employees of all stripes, and are an important reason why many employees choose certain careers, especially within the public sector.⁴ Because these retired Nevadans had a stable income stream coming into their households each month despite the economic downturn, they were able to continue their regular spending, directly and indirectly helping to stabilize Nevada’s consumer economy.



In fact, the economic impact of Nevada PERS reaches far beyond just those Nevadans who earn retirement benefits in the system because Nevada PERS retirees are also consumers and taxpayers. PERS pension benefits play a vital role in the state economy as well as in local economies across the state, supporting jobs and increasing economic output and tax revenues. When a retired teacher in Carson City receives a benefit payment from PERS, for example, she spends the money on goods and services in her community, thus supporting local firms and industries. These steady, monthly benefit payments provide peace of mind and security for PERS retirees. Local economies, in turn, benefit from the regular expenditures these retirees make on food, medical services, transportation, and even the occasional movie matinee.

These pension payments are particularly vital to small communities and economies across Nevada where, due to the lack of diverse local industries, other steady sources of income may not be readily found. In addition, DB pension income may be especially important in stabilizing local economies during economic downturns. This is because, unlike income from defined contribution plans and other individually managed



assets, pension income is guaranteed, so retirees need not worry about reducing spending with every dip in the stock market.

This study measures the economic “footprint” of pension benefits paid by Nevada PERS in the state’s economy, analyzing how pension payments made by Nevada PERS to retirees ripple throughout the state economy.

The economic gains attributable to PERS pension expenditures are quantifiable. In 2010:

- Nevada PERS paid more than \$1.3 billion in pension benefits, including some \$1.1 billion within the state of Nevada.
- Expenditures resulting from Nevada PERS pension payments supported:
 - More than 10,000 jobs statewide, which paid \$452 million in labor income for state residents other than Nevada PERS retirees.
 - Over \$1.2 billion in total economic output throughout the state, and more than \$789 million in value added (GSP).
 - Nearly \$174 million in federal, state, and local tax revenue.
- Expenditures made out of PERS pension benefits multiply through the economy:
 - Each dollar paid to PERS retirees residing in the state supported \$1.09 in total economic output in Nevada.
 - Each dollar “invested” by Nevada taxpayers supported \$6.69 in total economic output in Nevada.
- The largest employment impacts were seen in the food services and real estate **industries**.

The positive economic effects of PERS payments are all the more significant when viewed in the context of a distressed statewide economy. For example, in 2010 the unemployment rate in Nevada was 13.7%—the highest in the nation. The entire labor force in the state consisted of 1.4 million potential employees, of whom 190,000 were unemployed.⁵ In light of these numbers, the fact that PERS pension expenditures supported 10,000 jobs is significant, as it represents a substantial portion of the Nevada labor force.

The bottom line is that in supplying a stable source of income to retirees, PERS benefits have provided a critical stimulus of economic output, jobs, incomes, and tax revenue throughout the state. Especially in such times of financial crisis and economic instability, PERS benefits play an important role in providing a stable, reliable source of income not just for retired Nevadans, but also for the local economies in which their retirement checks are spent.



Background on Nevada PERS

The 1947 Session of the Nevada Legislature passed the Nevada Retirement Act. This Act created the Nevada Public Employees' System and was signed into law on March 27, 1947, by Governor Vail Pittman. The adoption of a retirement program for Nevada's public employees was influenced by several factors. First, the Nevada Legislature realized that Nevada was one of the few states that did not have an employee pension plan. In addition, the Social Security Administration of the federal government did not allow local government employee participation. Furthermore, the number of retirement plans in private industry was steadily increasing. All of these factors made government employment less attractive in states like Nevada that did not offer pension protection.

In contrast, states with established retirement programs had favorable experience meeting their pension plan objectives. These included stabilization of employment conditions by reduction of personnel turnover, making long term employment attractive to persons of proven ability and capacity, improving employee morale with the promise of financial security at retirement, and the removal of "hidden pensioners" from employment.

Employees and employers did not actually begin contributing to the system until July 1, 1948, while payments for service retirement and disability retirement started July 1, 1949. Despite the one-year setback from the time contributions began coming into the System until the date benefits were first paid, the Legislature still had to appropriate \$75,000 to meet the initial expenses of the system.

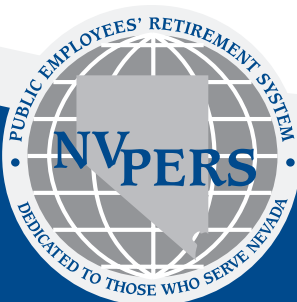
Since that time, Nevada PERS has grown significantly. In 2010, the system paid roughly \$1.36 billion in pension benefits to 46,578 retirees and beneficiaries. Of this amount, over \$1.1 billion was paid to residents of Nevada, because the vast majority of Nevada PERS retirees continue to reside in the State of Nevada. The average regular fund benefit was \$2,539 per month, or \$30,468 per year.

System Financing

Nevada PERS is a pre-funded retirement system, with a shared responsibility for funding. This means that contributions to the plan are made over the course of an employee's career by the employer, employee, and investment earnings to the pension fund. These contributions are invested and, upon retirement, the original contributions plus investment earnings are used to pay the benefits an employee has earned. Such a system can be contrasted with a pay-as-you-go retirement system, such as Social Security, in which current contributions are used to pay current benefits.



Pre-funded retirement systems have the advantage that investment earnings can do more of the "work" of financing retirement benefits over time.⁶ For example, in 2010, investment earnings represented a full 64.1% of Nevada PERS revenues. The remainder came from employer contributions (16.32%) and employee contributions (19.59%). The same pattern holds over a longer time period as well.



Measuring the Economic Impact of Nevada PERS Payments

When Nevada PERS mails out a pension check, the money provides an economic benefit for the retiree who receives it. Pension benefits from Nevada PERS provide a predictable, modest income that lasts a lifetime, and that can continue to a retiree’s spouse after one’s death. Nevada PERS pension payments provide essential income for retirees, since Nevada is one of several of states where public employees do not participate in Social Security. Retirees and other beneficiaries spend pension payments on life’s necessities, like food, utilities, healthcare, housing, transportation, and perhaps even on a little “splurge” from time to time, like a movie or meal at the local diner.

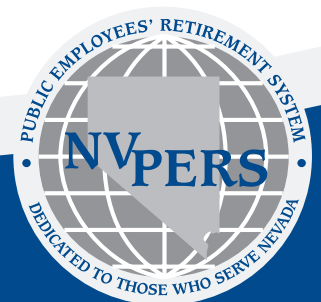


When retirees spend money in their local economy through the purchase of local goods and services, other Nevadans benefit. Local merchants see an increase in their revenues and incomes. The merchants then spend this additional income on more inputs and hiring more workers. These new employees then spend their additional income, purchasing additional goods and services in the local community, creating additional cycles of economic activity. Expenditures made by retirees create income for other households, firms, and even various levels of government. The income received by these households, firms and governments is, in turn, spent, thus creating an additional income effects for other households and firms. Each successive “round” of spending creates additional economic impacts. This process is what economists refer to as a “multiplier effect.” This study estimates the specific economic impacts associated with Nevada PERS benefit payments within the state of Nevada.

Data and Methodology

The data used for our analysis comes from two sources—Nevada PERS and IMPLAN. Nevada PERS provided data on benefit payments and tax withholdings on a statewide and county-by-county basis, as well as data on system receipts (employer contributions, employee contributions, and investment earnings).

To measure the economic impacts of benefits paid by Nevada PERS, the input-output modeling software IMPLAN was used. IMPLAN was first developed in the 1970s as part of a USDA Forest Service project to analyze the economic effects of local land management projects such as timber, mining, and recreation activities.⁷ Since that time, IMPLAN has been used by industry and government analysts throughout the country to assess economic impacts of highly varied local community development projects; these studies include many recent economic impact studies of pension benefit payments from state retirement systems.⁸ Detailed information on our data and methodology appear in the Technical Appendix to this report.



Results

We analyze four different types of economic impacts: employment, output, value added, and tax revenues. We also calculate an expenditure multiplier and a taxpayer contribution factor. Each of these is described in detail below.



1. Employment and Labor Income Impact: When retirees spend their pension checks, their expenditures help to support jobs—at the local diner, hospital, or even at a factory somewhere across the country. When a retiree makes a purchase, a business sees an increase in revenues. With enough of an increase, that business may be prompted to hire more workers. Using IMPLAN, we calculated the number of jobs supported by retirees’ expenditures. We also present estimates of labor income supported by pension expenditures, which is a component of value added, as described below. These calculations were performed at the state level and for each county.⁹ The employment impact estimates include full-time and part-time positions.

We estimate that Nevada PERS pension benefit payments supported more than 10,000 jobs statewide in 2010. By way of comparison, this is more than the number of Nevadans that were employed in the entire utilities (4,545) and food manufacturing (4,687) industries, combined, in that year.¹⁰

In addition, in 2010 the unemployment rate in Nevada was 13.7%—the highest in the nation. The entire labor force in the state consisted of 1.4 million potential workers, of whom 190,000 were unemployed.¹¹ In light of these numbers, the fact that PERS pension expenditures supported 10,000 jobs is significant, as it represents a substantial portion of the Nevada labor force.

On the county level, not surprisingly, Clark County—which, home to the city of Las Vegas, has the largest economy of the 17 counties—accounted for the largest number of jobs, with 5,231 full and part-time positions supported by Nevada PERS pension payments. Washoe County had the next largest employment impact with 2,610 jobs. Third in line was Carson City County, with 588 positions.



Table 1. PERS Pension Payments Support 10,043 Jobs and \$452 Million in Labor Income

	Total Jobs	Labor Income
State of Nevada	10,043	\$452,282,687
<i>By County:</i>		
Carson City	588	\$23,830,044
Churchill	194	\$5,347,154
Clark	5,231	\$243,080,686
Douglas	208	\$7,007,994
Elko	192	\$7,523,624
Esmeralda	2	\$37,831
Eureka	4	\$107,812
Humboldt	55	\$1,995,311
Lander	8	\$297,169
Lincoln	52	\$1,503,378
Lyon	180	\$4,842,220
Mineral	19	\$961,841
Nye	115	\$3,858,723
Pershing	12	\$360,190
Storey	12	\$371,220
Washoe	2,610	\$116,689,252
White Pine	44	\$1,635,058

We also analyzed employment impacts by industry across the entire state. As the following table indicates, food services and drinking places had the largest employment impact, with 945 positions supported by Nevada PERS payments. Real estate establishments also had a large employment impact with 766 jobs.



Table 2. Top Ten Industries by Nevada Employment Impact

Industry	Jobs	Output
Food services and drinking places	945	\$64,086,016
Real estate establishments	766	\$94,158,319
Offices of physicians, dentists, and other health practitioners	552	\$72,788,915
Federal government, non-military payroll	489	\$56,611,591
Securities, commodity contracts, investments, and related activities	463	\$44,205,735
Private hospitals	324	\$47,582,113
Retail Stores - General merchandise	317	\$18,895,620
Wholesale trade businesses	294	\$45,831,579
Retail Stores - Food and beverage	292	\$19,676,828
Nondepository credit intermediation and related activities	247	\$39,949,124

2. Output Impact. Total output includes the value of all goods and services produced in the economy. Using IMPLAN, we calculate the value of total output supported by Nevada PERS pension payments (including household and government expenditure effects) in the state and in each county.

The total output impact incorporates what are called the direct, indirect, and induced output impacts. The direct impact occurs when the initial benefit payment is spent by the retiree. The indirect impact occurs as a result of the additional income generated through the purchase of more goods and services by merchants receiving direct expenditures from retirees. The induced impact is attributable to the additional income generated through the purchase of goods and services by employees hired as a result of the direct and indirect impacts.

Our model finds that the \$1.1 billion in PERS benefits paid within the state of Nevada last year supported over \$1.2 billion dollars in overall economic output in the Nevada economy. This is only slightly less than the total Gross State Product contributed by the amusement, gambling, and recreation industry, which generated \$1.4 billion in the Nevada economy in 2010.¹²

The total output impact of \$1.2 billion includes \$723 million in direct impacts, \$202 million in indirect impacts, and \$284 million in induced impacts.

On the county level, Clark County again showed the highest output impact, with \$377.3 million in direct, \$107.8 million in indirect, and \$154.3 million in induced impacts, for a total output impact of close to \$639.4 million. These impacts are more than was contributed by the entire truck transportation industry, which contributed \$635 million to the Nevada economy in 2010.¹³ Washoe County also had significant economic impacts, with \$178 million in direct, \$54 million in indirect, and \$76 million in induced impacts,



for a total economic impact of \$309 million in 2010, contributing more than the information and data processing services (\$139 million) and rail transportation (\$170 million) industries, combined.

Table 3. PERS Pension Payments Support \$1.2 Billion in Economic Activity

	Direct	Indirect	Induced	Total Output
State of Nevada	\$723,478,209	\$201,679,862	\$284,323,745	\$1,209,481,816
<i>By County:</i>				
Carson City	\$46,381,213	\$9,556,549	\$10,104,526	\$66,042,288
Churchill	\$11,517,774	\$4,763,411	\$3,284,303	\$19,565,488
Clark	\$377,305,218	\$107,750,612	\$154,305,605	\$639,361,435
Douglas	\$15,028,538	\$4,201,431	\$3,305,285	\$22,535,254
Elko	\$15,350,326	\$2,439,202	\$2,924,007	\$20,713,535
Esmeralda	\$155,311	\$15,395	\$7,733	\$178,439
Eureka	\$404,049	\$31,784	\$6,597	\$442,430
Humboldt	\$4,424,994	\$761,624	\$737,546	\$5,924,164
Lander	\$803,766	\$97,710	\$72,174	\$973,650
Lincoln	\$4,107,753	\$856,728	\$300,508	\$5,264,989
Lyon	\$13,014,606	\$2,632,834	\$1,983,700	\$17,631,140
Mineral	\$2,013,476	\$378,154	\$370,866	\$2,762,496
Nye	\$8,825,007	\$1,975,005	\$1,988,906	\$12,788,918
Pershing	\$1,012,790	\$108,665	\$88,212	\$1,209,667
Storey	\$944,044	\$345,956	\$149,996	\$1,439,996
Washoe	\$178,351,823	\$54,424,333	\$76,451,877	\$309,228,033
White Pine	\$4,173,949	\$594,301	\$538,134	\$5,306,384

3. Value Added Impact: Value added is a net estimate of the creation of “new value” in the economy. Commonly referred to as Gross Domestic Product (GDP), it includes the value of employee compensation, profits, rents, and other aspects of production, but excludes the costs of purchased materials and services. IMPLAN calculates the value added attributable to DB pension benefit expenditures.

We estimate that Nevada PERS pension benefit payments supported more than \$789 million in value added statewide. Again, Clark County saw the largest impact, with \$418 million in value added supported by Nevada PERS pension payments. Washoe County was next in line, with nearly \$202 million in value added supported. Third was Carson City, with nearly \$45 million in value added.

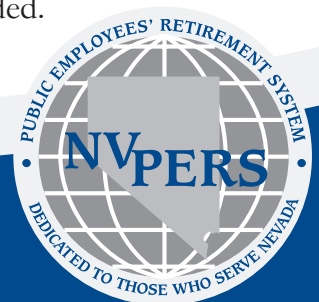
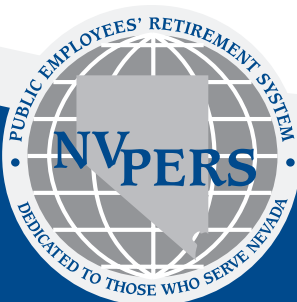


Table 4. PERS Pension Payments Support \$789 Million in Value Added (GSP)

	Value Added
State of Nevada	\$789,100,168
<i>By County:</i>	
Carson City	\$44,462,744
Churchill	\$11,602,029
Clark	\$418,428,901
Douglas	\$14,334,227
Elko	\$13,507,930
Esmeralda	\$110,413
Eureka	\$316,047
Humboldt	\$3,870,676
Lander	\$661,573
Lincoln	\$3,294,882
Lyon	\$11,068,855
Mineral	\$1,860,109
Nye	\$8,296,403
Pershing	\$786,300
Storey	\$965,245
Washoe	\$201,848,450
White Pine	\$3,407,169

4. Tax Impact. Economic activity of all kinds—receiving pension income, earning wages, producing profits, selling goods and services—provides the basis for the tax revenues that are required to fund government services. To calculate the impact pension payments have on tax revenues, we first separate out the taxes paid by beneficiaries directly on their pension benefits. Then, using IMPLAN, we calculate estimates of taxes attributable to the economic activity that results when retirees’ spend their pension checks and in all subsequent rounds of spending. Our analysis also includes the tax impact of government expenditures. This includes all corporate, personal income, and business taxes that are generated through each spending round.

As shown in Table 5, Nevada PERS benefit payments supported \$173.7 million in total tax revenue in 2010, with state and local tax receipts of \$68.0 million, and federal receipts of \$105.7 million. The county with the highest tax revenue generated was Clark County, where pensions paid by Nevada PERS supported \$35.3 million in state and local tax receipts and \$57.8 million in federal tax receipts, for a total of over \$93 million in tax revenue in 2010. Washoe County also generated significant tax revenues of \$17.3 million in state and local receipts, and \$26.7 million in federal tax receipts.



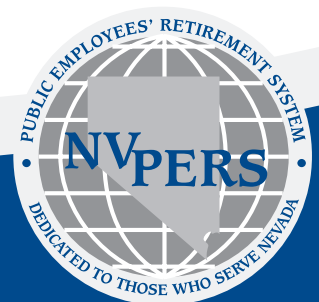
To put these numbers in perspective, the total federal tax revenue generated from Nevada PERS benefit payments was just slightly less than the federal government’s expenditures on emergency energy preparedness in 2010.¹⁴ The total state and local tax revenue supported is roughly equivalent to what the state of Nevada spent on parks and recreation and housing and community development—combined—in 2008 (the last year for which data was available).¹⁵

Table 5. PERS Pension Payments Support \$174 Million in Tax Revenue

	State/Local Tax Revenue	Federal Tax Revenue	Total Tax Revenue*
Nevada	\$68,037,649	\$105,698,083	\$173,735,732
<i>By County:</i>			
Carson City	\$4,250,966	\$4,839,673	\$9,090,639
Churchill	\$1,023,256	\$1,356,796	\$2,380,052
Clark	\$35,278,440	\$57,837,161	\$93,115,601
Douglas	\$1,330,853	\$1,689,569	\$3,020,422
Elko	\$1,241,859	\$1,864,064	\$3,105,923
Esmeralda	\$12,079	\$13,344	\$25,423
Eureka	\$8,056	\$47,631	\$55,687
Humboldt	\$345,121	\$525,251	\$870,372
Lander	\$49,601	\$84,815	\$134,416
Lincoln	\$273,032	\$435,082	\$708,114
Lyon	\$1,156,532	\$1,320,788	\$2,477,320
Mineral	\$151,145	\$238,612	\$389,757
Nye	\$756,659	\$1,068,707	\$1,825,366
Pershing	\$66,799	\$92,311	\$159,110
Storey	\$92,666	\$106,945	\$199,611
Washoe	\$17,301,779	\$26,652,101	\$43,953,880
White Pine	\$283,434	\$423,482	\$706,916


* Totals may not add up exactly due to rounding.

5. Multipliers. An expenditure multiplier tells us the total economic impact that each dollar in expenditures has. (For example, a multiplier of 1.2 would mean that for every \$1 spent in a local economy, \$1.20 of total output is supported.) An expenditure multiplier is calculated by taking the total output (consisting of the direct, indirect, and induced impacts taken together) and dividing it by the value of the “initial event” in the economy (in this case, a pension benefit being paid). The expenditure multiplier usually lies between 1.0 and 3.0.



In 2010, Nevada PERS benefit payments had an expenditure multiplier of 1.09, meaning that for every dollar paid out in pension benefits to Nevada retirees, \$1.09 in total output was supported in Nevada’s economy.

Figure 1. Pension Expenditure Multiplier

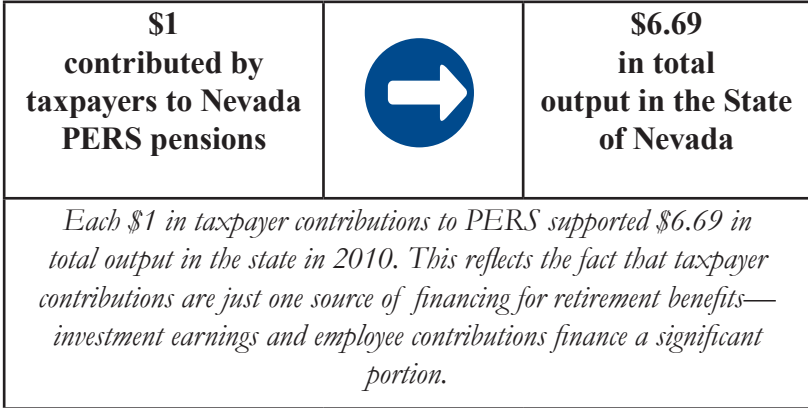
\$1 in PERS benefits paid to retirees in Nevada		\$1.09 in total output in the state of Nevada
<i>Each \$1 in PERS benefits ultimately supported \$1.09 in total output throughout the state. This “multiplier” incorporates the direct, indirect, and induced impacts of retiree spending, as it ripples through the Nevada economy.</i>		

Because PERS is pre-funded, only a small portion of the total pension payments made in any given year was funded through taxpayer dollars. As discussed above, in 2010, employer (or taxpayer) contributions to PERS only consisted of 16.32% of the total pension fund receipts, the rest being funded by employees themselves (19.59%) and through investment earnings (64.1%). Therefore, it may be helpful to calculate the total impact of PERS payments that is attributable to the “taxpayer investment” in PERS.¹⁶

Because only \$0.16 of every dollar paid out in pension benefits was generated through taxpayer contributions in 2010, the “taxpayer investment” factor will be substantially higher than the expenditure multiplier. In 2010, of the \$1.1 billion paid out in PERS benefits to Nevada retirees, only \$180.9 million was funded by taxpayer dollars. The taxpayer investment factor, then, was 6.69. In other words, for every dollar contributed to PERS by taxpayers, \$6.69 in total output was supported in the Nevada economy.



Figure 2. Taxpayer Contribution Factor



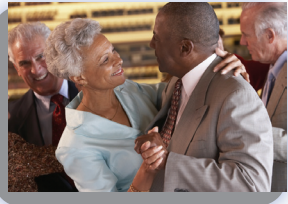
Conclusion

Nevada PERS provides a critical source of reliable income for more than 46,500 retirees who have served Nevada’s local communities and their beneficiaries—police officers, firefighters, schoolteachers, and other public servants. But the economic impact of Nevada PERS reaches well beyond those who contributed to and earned benefits in the plan during their working years.

In 2010, the state of Nevada was still reeling from the financial crisis, and had the highest unemployment rate in the country. In supplying a stable source of income to retirees, PERS benefits provided a critical stimulus of economic output, jobs, incomes, and tax revenue throughout the state. Especially in such times of financial crisis and economic instability, PERS benefits play an important role in providing a significant source of income not just for retired Americans, but also for the local economies in which their retirement checks are spent. This is because no matter what the state of the rest of the economy may be, Nevada PERS retirees provide a consistent, steady support to local business revenues and local employees’ incomes.

These economic impacts are quantifiable. Statewide, Nevada PERS pension benefits supported over 10,000 jobs and over \$452 million in labor income in 2010. These pension benefits further supported the generation of over \$1.2 billion in total output, and close to \$174 million in federal, state, and local tax revenue in that year.

Especially in these times of financial and economic crisis, public pension plans like Nevada PERS should be recognized for the important role they play in providing a reliable source of income not just for public sector retirees, but also for the local economies in which their retirement checks are spent. Such pre-funded retirement systems allow the investment of \$1 of taxpayer contributions to be multiplied many times over. For each dollar invested by Nevada taxpayers, \$6.69 in economic activity in the state is supported, indicating that Nevada PERS is not only serving its members well, but providing an important economic benefit to all Nevadans.



Technical Appendix: Detailed Methodology

The data used for our analysis comes from two sources—Nevada PERS and IMPLAN. Nevada PERS provided data on benefit payments and tax withholdings on a statewide and county-by-county basis. Nevada PERS also provided data on system receipts (employer contributions, employee contributions, and investment earnings). To measure the economic impacts of benefits paid by Nevada PERS, the input-output modeling software, IMPLAN, was used. IMPLAN was first developed in the 1970s as a part of a USDA Forest Service project to analyze the economic effects of local land management projects such as timber, mining, and recreation activities.

Since that time, IMPLAN has been used by industry and government analysts throughout the country to assess economic impacts of highly varied local community development projects; these studies include many recent economic impact studies of pension benefit payments from state and local retirement systems. Because of differences in modeling and the data used, the results of our study may not be comparable with these other analyses. Thus, the reader should avoid drawing conclusions based on comparisons between our results and those of other studies.

IMPLAN is an input-output model that uses a matrix to represent the economy of a region in order to estimate the effect of events occurring in a single industry or institution on all other industries, as well as consumers, government, and foreign suppliers to the economy. IMPLAN uses a Social Accounting Matrix (SAM), which captures all the industry and institution transactions in the local area; subsections of a SAM describe various structures and functions of a local economy. The SAM describes a local economy in terms of the flow of dollars from purchasers to producers within a region, while also accounting for non-industrial transactions such as payment of taxes by businesses and households. This offers a better portrayal of the household income effect portion of local economic events than other models.

Since our previous economic impact study for Nevada PERS was published in 2009, IMPLAN has undergone significant modeling changes. Version 2, used in the original study, used an Econometric Regional Purchase Coefficient (RPC) method. The more recent Version 3, utilized in this study, uses a trade flow model. Due to its internal consistency and by accounting for spatial variables like the proximity and size of alternative markets, the trade flow model is presumed to be superior to econometric methods for estimating regional RPCs.¹⁷ Internet sales, for example, are given a lower impedance in the trade flows model than in the econometric RPC model, especially compared to the other retail sectors, meaning that it is more likely that such e-commerce will be imported. Thus, inter-county commerce leakages in the trade flows model are likely to be higher than in the previous version. Due to these changes, results of the current study are not directly comparable to those of the older study, and the reader should avoid drawing conclusions based on such comparisons.



Migration/Leakage

We began with the recognition that upon retirement, not all Nevada PERS beneficiaries continue to reside in their home state or county. When a Nevada PERS beneficiary moves out of state, he takes his pension payments with him, spending his pension checks in his new state of residence, rather than in the state where the pension payment originated. Such a move is called a leakage, because any income that is spent out of state is lost to the state of origin in terms of adding to total economic output, and therefore the value added, employment, and expenditure multiplier of the state of origin.

For this study, we relied on data supplied by Nevada PERS on zip codes where individual benefit checks were sent. For ease of calculation, we assume that no zip codes overlap into more than one county. In this way, we are able to very accurately account for any county-to-county movement or out of state leakage that has occurred since the time any given beneficiary has retired.

Disposable Income Impacts

Household income data in IMPLAN is assumed to be disposable income; that is, IMPLAN assumes that every dollar inputted into the model is spent in the local economy. Therefore, before calculating the economic impacts of pension benefit payments, it is necessary to account for any and all taxes that are withheld from pension payments. By subtracting income taxes from gross pension payments, we calculate disposable income in order to avoid over-estimating the economic impacts of state and local government plans.

To this end, we utilized data supplied by Nevada PERS on all tax withholdings from pension benefit checks. (Because Nevada has no state income tax, federal income taxes were the only relevant withholdings in this regard.) We disregard other benefit paycheck withholdings for ease of computation, and because we assume that any additional withholdings fall within the same disposable income allocation modeled by IMPLAN. (Say, for example, that an individual has withholding of \$50 per pension check for health care services—which are technically paid out of disposable income. Therefore, if we subtract this expense for disposable income as a withholding, we will be underestimating the pension benefit's impact, because IMPLAN will account for health care services through its modeling matrices.)

For this study, the state's aggregated, and each individual county's, disposable pension payments are inputted into IMPLAN as direct payments to households. The household income range used is based on the median household income among heads of household age 65 and older for the State of Nevada, taken from the 2010 American Community Survey (ACS) of the U.S. Census.¹⁸ In 2010, the median household income in Nevada for those aged 65 and up was \$38,951, so the IMPLAN sector for households in the income range of \$35,000-50,000 per year was used for the statewide analysis. Median incomes were also included for each county-level analysis. These household expenditure impacts on employment, output, value added, and taxes were then calculated using IMPLAN.



Government Revenue Impacts

The federal taxes that are withheld from pension benefit checks do not go unspent. The federal government uses those receipts to fund programs, hire federal employees, and purchase goods. Therefore, in order to correctly assess the full economic impact of Nevada PERS pension benefit payments, we must account for the federal expenditure resulting from the federal taxes withheld from benefit checks.

To model this effect in IMPLAN, we must first separate federal expenditures into three subcategories: defense spending, nondefense spending, and investment spending. We used data from the Office of Management and Budget to calculate the percentage of total expenditure accounted for by each of these categories in 2010,¹⁹ and assumed that each additional dollar received by the federal government will be allocated in the same way. We then allocate the total federal tax withholdings from PERS payments into each category based on these percentages. The resulting figures are added to the IMPLAN model as the corresponding federal expenditure, and the corresponding employment, income, value added, output, and tax impacts are then calculated.

Multipliers

Multipliers are ratios that relate the overall economic effect to a single unit of any initial event. An expenditure multiplier, for example, displays the total output supported for every dollar that is initially spent in a local economy. In terms of pension benefit payments, the expenditure multiplier assesses the impact on total output for each dollar paid out in a pension benefit. For example, an expenditure multiplier of 1.2 would mean that for every \$1 paid out in a pension benefit, \$1.20 of total economic output is generated in the local economy. For this study, expenditure multipliers are calculated by taking total output supported within a local area divided by total pension benefits paid to residents in that area in that year.

County-Level Economic Impacts

Since our analysis is concerned with measuring the “economic footprint” of all PERS benefits, regardless of their county of origin or destination, we need to account for the economic impacts of pension dollars that flow across county lines. As IMPLAN version 3 utilizes a trade flow model to estimate the SAM, we are able to account for the economic effects flowing out of one county and into to another by utilizing a Multi-Regional Input-Output Analysis (MRIO). For example, to determine the economic impacts of \$1 million in Lincoln County’s pension payments that may flow to Clark County, we set up an MRIO analysis of Lincoln’s pension payments between Lincoln and Clark. Thus, we are able to recapture much—but not all—of any single county’s economic leakage due to inter-county commerce. Because it is nearly impossible to capture all of this leakage, however, the state-level impacts will always be higher than the sum of all county-level impacts.



When calculated on a county-by-county basis, the economic impacts and multipliers are collectively smaller than the statewide impacts and multipliers, due to the fact that county economies are generally smaller and less diverse than the state economy as a whole. The smaller and more homogeneous any local economy is, the smaller the economic multipliers will be for that economy, due to the fact that input-output economic analysis takes into account local production patterns, eliminating from any local economy's total output that which leaves the state. For example, if a consumer in the county of Humboldt purchases a new car, that purchase is broken down into its various components of production: the engineers and designers, the auto parts manufacturers, the automobile assembly manufacturer, and the retail car salesman all receive a portion of the revenue from that sale. Because the car was purchased within Humboldt, the portion of output due the car dealership will certainly be added to Humboldt's total output. If the car was designed in Canada and manufactured in Detroit, however, output from these services would not be included in Humboldt's total output, because they were not performed within the county of Humboldt.

Tax Revenue

To calculate total tax revenue generated by the pension payments, IMPLAN calculates all corporate, personal income, and business taxes that are generated through each spending round of both household income and federal expenditures, separated out by federal and state and local levels.



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- ⁸ Examples of recent pension benefit payment economic impact studies using IMPLAN software include studies commissioned by the California Public Employees Retirement System, the California State Association of County Retirement Systems, the State of Minnesota, and the State of Mississippi. Because of differences in data and methodology, the results of our study may not be comparable with these analyses. Readers should avoid drawing conclusions based on such comparisons.
- ⁹ When calculated on a county-by-county basis, the economic impacts and multipliers are collectively smaller than the statewide impacts and multipliers, due to the fact that county economies are generally smaller and less diverse than the state economy as a whole. The smaller and more homogeneous any local economy is, the smaller the economic multipliers will be for that economy, due to the fact that input-output economic analysis takes into account local production patterns, eliminating from any local economy's total output that which leaves the state.
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