ARROWHEAD CENTER

LEADING ECONOMIC DEVELOPMENT FOR NEW MEXICO STATE UNIVERSITY

The Economic Impact of Exempting Retired Military Service Payments from New Mexico Personal Income Tax

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By

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EXECUTIVE SUMMARY

In response to Senate Joint Memorial 27 of the 48th Legislature State of New Mexico Second Session 2008, the Office of Policy Analysis of the Arrowhead Center in cooperation with Department of Economics and International Business at New Mexico State University conducted an economic impact analysis of the effect on the State of exempting retired military service pay from New Mexico Personal Income Tax.

Many states provide some type of exemption for various types of military pay and the argument is that more military retirees will come to New Mexico if the exemption in enacted. While tax implications are a likely factor in deciding where to retire, they are not likely to comprise the only important decision parameter. Other factors include close proximity to military bases, climate and amenities. New Mexico is already well suited for military retirees. The exemption of retirement pay from the personal income tax would provide one more reason for retired military service personnel (RMSP) to retire to the state.

The American Community Survey (ACS) conducted annually by the US Census Bureau was used to develop a profile of the retired military veterans in New Mexico for the year 2007. The ACS data contains information regarding age, gender, education, occupation, military status, military period of service, income, retirement status, and other socio-demographic characteristics. This information was used to calculate the impact of existing RMSP on the state economy. It was assumed that new retirees would be similar and would have the same types of impacts.

The average RMSP individual has a higher household income, has a higher educational attainment, and is older than those in the general population. More of these individuals work for the government than those in the general population. The average household income in New Mexico was $56,170 and for RMSP households the average household income was $86,161. Based on the ACS data, the average age for New Mexico was 44 years and for the RMSP population it was 57 years. 41.32% of the RMSP population has at least a Bachelor's degree, compared with 24.9% of the New Mexico population.

The current population of RMSP generates significant benefits to the state of New Mexico. The nearly 20,000 RMSP generate an estimated 33,619 jobs and more than $694.6 million in GDP to the state annually. The retirement pay, post-retirement employment, and other sources of household income are estimated to provide the state with more than $33.442 million in personal income taxes, $11.58 million in corporate income taxes, and result in more than $69.98 million in gross receipts taxes collected annually.

Exempting military retirement benefits will result in an estimated initial loss of more than $8.857 million in personal income taxes and that under the best scenario it will require an increase of 8.3% in RMSP to offset the loss. The historical growth rate for RMSP in the state is, on average, 1.5%. If this growth rate was doubled, the state would experience a positive yearly contribution due to increased personnel in year six and experience overall net benefits in year ten. If the growth rate in RMSP was 5%, yearly positive benefits would accrue in year two and overall benefits would be positive in year three.

The analysis presented is based on two important assumptions: (1) that existing and future RMSP do not displace other New Mexicans in the labor market, and (2) that future RMSP will be similar to existing RMSP. Not all taxes paid by RMSP are included in the analysis. Taxes paid to local

government entities have not been included. Spending in New Mexico by other federal agencies on behalf of RMSP has not been included due to difficulties in applying expenditures to individuals.

While tax rates do influence the decision on where to retire, tax rates are not the only determinant. New Mexico is an attractive retirement location for RMSP and other retirees. The significant number of military installations, the level of medical services, environmental amenities, and pleasant weather indicate that New Mexico will continue to attract significant numbers of RMSP. Whether or not the exemption will generate enough other revenues to recover the $8.857 million loss in PIT revenues depends on the additional RMSP that will be attracted to the state.

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INTRODUCTION

In response to Senate Joint Memorial 27 of the 48th Legislature State of New Mexico Second Session 2008, the Office of Policy Analysis of the Arrowhead Center in cooperation with Department of Economics and International Business at New Mexico State University conducted an economic impact analysis of the effect on the State of exempting retired military service pay from New Mexico Personal Income Tax.

New Mexico is home to approximately 20,000 Retired Military Service Personnel (RMSP) as of 2007, with 19,260 officers and enlisted individuals receiving non-disability retirement pay (Department of Defense Statistical Report, 2007). To qualify for RMSP retirement pay an individual must have served at least 20 years in the military and be discharged honorably. The minimum age of retirement is 37 years (Department of Veteran Affairs, 2008). The average retiree is highly skilled and many retirees continue to work after retirement which brings substantial economic benefits to the State in terms of labor income, output, and tax revenues.

It has been proposed that exempting RMSP retirement income payments from New Mexico State Personal Income Tax (PIT) will induce additional retirees to move to New Mexico. These new RMSP retirees will bring income and job skills to New Mexico, and spur economic development in the state. It has been proposed that the economic benefit created by the additional RMSP moving to the state will offset losses in State tax revenues created by a PIT exemption of RMSP retirement pay.

RMSP bring two main benefits to New Mexico: (1) the retirement payments made to RMSP provide income that is spent in the state economy; (2) the employment of RMSP and other members of their households generate labor income and tax revenues from Personal Income Taxes (PIT), Gross Receipts Taxes (GRT), and Corporate Income Tax (CIT).

The central question of this analysis is whether or not the benefits derived from inducing new RMSP retirees to move to New Mexico are larger or smaller than the losses to the State from exempting the retirement payments. This study is organized as follows: Part I provides background information regarding the exemption of RMSP retirement pay and how New Mexico compares to other states; Part II details the current population of RMSP in New Mexico and provides information on the age, employment, income, and other selected characteristics of the RMSP retirees currently in New Mexico; Part III details the methods used to estimate the total economic impact on the state of the exemption; and Part IV provides the economic impact and tax revenue analyses. Appendix A provides a detailed table of the employment of RMSP by industrial sector and Appendix B contains a review of Input-Output methods and terms.

BACKGROUND

Many states provide some type of exemption for various types of military pay. Wisconsin and Ohio are two of the more recent states to enact an exemption for military retirement pay, and Virginia is currently considering an exemption. A full listing of updated information regarding income exemptions and other topics can be found at www.military.com. Table 1 provides information on the number of RMSP by state, population of the state, and the RMSP as a percent of population. The states in Table 1 are states that have tax exemptions for military retiree pay. As can be seen in Table 1, Alabama ranks first in the country for the number of RMSP as a percent of the state population. Hawaii is second, and New Mexico ranks third with 1.08% of the total population being comprised of RMSP. Florida, a state with no income tax, has 1.02% of the population who are RMSP, while Texas (another state with no income tax) has only 0.766% of the population who are RMSP.

Table 1. Veterans as Percent of Population by Tax Status (2007)

	Number of Retired Veterans Receiving DOD Payments*	US Population from the US Census	Veterans as a Percent of the Population
States with Exemptions for Military Pay**			
Alabama	53,982	4,627,851	1.17%
Hawaii	15,701	1,283,388	1.22%
Illinois	34,779	12,852,548	0.27%
Kansas	20,281	2,775,997	0.73%
Kentucky	25,945	4,241,474	0.61%
Louisiana	25,524	4,293,204	0.60%
Massachusetts	19,164	6,449,755	0.30%
Michigan	27,234	10,071,822	0.27%
Mississippi	25,574	2,918,785	0.88%
New Jersey	20,419	8,685,920	0.24%
New York	36,884	19,297,729	0.19%
North Carolina	82,050	9,061,032	0.91%
Ohio	43,479	11,466,917	0.38%
Pennsylvania	48,053	12,432,792	0.39%
Wisconsin	18,944	5,601,640	0.34%
States with No Income Tax			
Texas	183,005	23,904,380	0.77%
Florida	186,102	18,251,243	1.02%
New Mexico			
New Mexico	21,274	1,969,915	1.08%
United States Total			
United States	1,983,467	301,621,157	0.66%

*Notes: *This information is derived from the Department of Defense "Statistical Report on the Military Retirement System" compiled by the Department of Defense (DOD) Office of the Actuary. Tables on Numbered Page 21 of the Fiscal Year Annual Reports. These reports are available online at http://www.defenselink.mil/actuary/. The Fiscal Year report for 2007 was accessed on September 7, 2008 for this report. "Military Personnel Receiving and Not Receiving Pay from DOD as of September 30, 200X (Payment in Thousands)".** This information was found at http://www.miitary.com/benefits/military-pay/retired-pay/state-retirement-income-tax. Accessed on September 2, 2008. Population data comes from the US Census 2007 estimates, available at www.census.gov American Fact Finder.*

The data in Table 1 do not appear to indicate any strong trend between having a tax exemption for retirement benefits and the number of retirees living in the state. RMSP represent 0.66% of the total U.S. population. For many of the states that have an exemption the number of RMSP are not noticeably in excess of this amount.

A priori, it would be expected that the choice of where to retire is driven by location of last assignment before retirement, length of time at last station, family location, and climate/recreational opportunities—in addition to tax considerations. While tax implications are a likely factor in deciding where to retire, they are not likely to comprise the only important decision parameter.

A literature review regarding migration patterns of veterans suggests that the veteran population has a greater tendency than the overall retired population to settle in the Sunbelt and Pacific Northwest regions due to the younger age structure and larger proportion of males in the population (Cowper et al., 2000). This trend is visible in the data presented in Table 1, and indicates that New Mexico is likely to receive more RMSP than other regions of the country based solely on the geographic characteristics that make New Mexico an attractive retirement destination for all retiree groups.

A nationwide, county-by-county study examining where military retirees locate, found that counties with a close proximity to a military base, mild winters, and coastal locations attract the highest number of military retirees. The proximity to a military base is most closely associated with younger retirees, while climate and amenity factors are more important to older retirees (Jackson and Day, 1993). Again, this is apparent in the data in Table 1 and reinforces the *a priori* expectation that New Mexico is an attractive location for retirees, including military retirees, and that tax considerations play a smaller role in determining where to retire than factors relating to access to medical care, climate and recreational amenities.

PROFILE OF RETIRED MILITARY SERVICE PERSONNEL IN NEW MEXICO

The American Community Survey (ACS) conducted annually by the US Census Bureau was used to develop a profile of the retired military veterans in New Mexico. The data from ACS contains a weighted survey of residents across the United States. For each state, data files can be downloaded at http://www.census.gov/acs/www/index.html and used to answer a wide variety of questions about a population. The ACS data contains information regarding age, gender, education, occupation, military status, military period of service, income, retirement status, and other socio-demographic characteristics.

The ACS data does not directly contain information on retired military service personnel, but does contain enough information to derive an estimate of the number of RMSP in New Mexico. To derive the population of RMSP in New Mexico, the ACS data were screened for individuals over 37 years of age who served at least twenty years in the military.[1] Using this procedure it is estimated that in 2007 New Mexico was home to 19,277 Retired Military Service Personnel. This estimate is almost identical to the number of non-disabled RMSP receiving payments from DOD in 2007 of 19,260 in New Mexico. Table 2 provides a profile derived from the 2007 ACS data of both the New Mexico population and the RMSP population over the age of 16.

As shown in Table 2, the average RMSP household in New Mexico has a higher average household income ($86,161) than the general population ($56,170); and has a higher degree of educational attainment, with 41.32% of the RMSP population having at least a Bachelor's degree versus 24.90% of the general NM population. The median age for the general NM population is 36 years, while the RMSP median age is 57 years. The RMSP is largely male, with 93.85% being male versus 49.60% for the general population. The population is also older than the general population with 29.06% being over 65 years of age versus 12.80% of the NM population.

[1] Years of service was not directly given in the ACS data, so to calculate the number of years of service the variables describing the period of service were used to calculate a number of years that the variable represents. For example, the MLPE variable was service during the Vietnam War Era from August 1964 through April 1975 and in order to construct the number of years, the date ranges were subtracted. For each period of service variable the date ranges were subtracted. This yielded a number of years for each period. The original variables were coded as 0=no service that period and 1=service that period, the number of years for each range were than substituted if the value for the variable equaled one. These converted values were then summed. If the resultant values were greater than or equal to twenty a new variable RMSP was coded as one, else RMSP equaled zero. When combined with those over 37, provides a proxy for the number of individuals who are retired military service personnel and who should be receiving retirement pay from the Department of Defense.

Table 2. Selected Descriptive Statistics for New Mexico From US Census (ACS) 2007 Data

	New Mexico Households	RMSP Households
Average Household Income	$56,170	$86,161
Median Household Income	$41,452	$75,000
Total Number of Households	734,847	15,500
Total Household Income (Average Income * Num. HH)	$41,276,355,990	$1,335,493,315
Average Age	44.54	57.25
Median Age	36.00	57.00
Population Age 65+	12.80%	29.06%
Education (Bachelor's Degree or Higher)	24.90%	41.32%
Gender (Percent Male)	49.60%	93.85%

Table 3 provides information regarding the employment status and type of employment for both the RMSP population and the general population over the age of 16. As shown in Table 3, the significant employment differences between the general population and RMSP are found in the numbers working for private wages and the government. For the state as a whole, 65.78% worked in the private sector for wages and income and 20.70% worked for the government sector. For the RMSP population, 44.86% worked for private sector wages and 47.23% worked in the government sector. According to the ACS, 4.54% of RMSP work in construction, 16.96% work in professional and technical (architecture, engineering, and consulting) professions, 5.12% work in education, and 45.10% work in national security, military, and related industries. Table A1 in Appendix A provides the detailed listing of industrial sectors, and the number of individuals employed in that sector.

Table 3. Labor Force Components

	New Mexico	RMSP	New Mexico Percent Labor Force	RMSP Percent Labor Force
Population Over 16	1,533,601.00	19,277.00		--
Civilian Labor Force	938,164.00	11,119.00	100.00	100.00
Employed	885,283.00	11,055.00	94.36	99.42
Unemployed	52,881.00	64.00	5.64	0.58
Private Wage	617,145.00	4,988.00	65.78	44.86
Government	194,198.00	5,252.00	20.70	47.23
Self-Employment	71,716.00	879.00	7.64	7.91

ECONOMIC IMPACT OF RMSP IN NEW MEXICO

METHODOLOGY AND ASSUMPTIONS

To estimate the total economic impact generated by the RMSP in New Mexico and to estimate the cost to the State of New Mexico in terms of revenue under the proposed NM PIT Exemption for RMSP payments, the following assumption have been made. First, it is assumed that the new RMSP locating in the state will be similar to the RMSP already here. Therefore, the new RMSP population will be of the same average age, have the same average educational attainment level, be employed in the same types of jobs, and have the same average income levels and distribution. Second, the jobs in which the RMSP and their household members are employed do not displace other workers already in the state. Third, the sources of income (not from employment) originate from outside the state. These three assumptions taken together allow the estimation of the impacts generated by RMSP in New Mexico. The full implication of these assumptions will be discussed in the Summary. The calculation of the impact of existing RMSP households will then allow an estimate to be made of the impact of additional RMSP households and the effects on the tax revenues generated in the state as a result of the exemption of retirement pay from the Personal Income Tax.

To estimate the total impact resulting from the economic benefits described above, an Input-Output model was used. Input-Output analysis was initially developed by Wassily W. Leontief in the 1930s. Founded in general equilibrium analysis, input-output analysis was initially used as a tool to model national economies but is currently used extensively to examine economic impacts to regional economies as well. Input-output analysis quantifies the inter-relationships between sectors of a complex economic system, detailing the movement of dollars between producers and consumers of goods and services within an economy (Lillywhite and Starbuck, 2008).

Direct effects are estimates of dollar impacts to the economy resulting from production by businesses within the sector under consideration. That is, a particular sector's direct effect on the economy is the amount of money generated by the sector through sales of its products and/or services. Indirect effects are impacts to the economy as the result of industry businesses purchasing inputs from other industry sectors within the economy, that is, the production in other industries resulting from input demands generated by the primary industry. Finally, induced effects are the value of increased spending by households resulting from the increase in income that was generated through the direct and indirect effects discussed above (Lillywhite and Starbuck 2008, Pg. 27-28). The total economic impact of any initial change in the economy is the sum of the direct, indirect, and induced effects. The direct, indirect, and induced effects are measured in terms value added which is GDP, income and employment.

For this study, the software program IMPLAN was used to estimate a PIT exemption of RMSP military retiree pay on the New Mexico General Fund using an Input-Output analysis. Appendix B provides a more detailed description of Input-Output methods, and the IMPLAN modeling software.

RMSP HOUSEHOLD INCOME

RMSP bring benefits to New Mexico stemming from a variety of sources: military retirement payments, other retirement pay, post-retirement employment, self-employment, other household member employment, as well as other income sources. The total RMSP household income generates multiple rounds of economic activity as this spending triggers additional demand for labor and output from various businesses. The RMSP households generate tax revenues from Personal Income Taxes (PIT), Gross Receipts Taxes (GRT), and Corporate Income Tax (CIT).

To estimate the total value of the RMSP retirement payments in New Mexico, the Department of Defense (DOD) Statistical Reports were used. The total number of non-disabled military veterans receiving pay in each year from 2000-2007 were compiled from the reports.[2] The DOD reports provide a census of information regarding the number of retired officers and enlisted by state in addition to the pay received.

This analysis uses only the non-disabled RMSP in estimating the economic and tax impact of the PIT exemption for two primary reasons: (1) disability pay is already exempted from PIT; and (2) the availability of data prevents an accurate way to derive the economic impacts associated with disabled RMSP. The estimates presented in this report exclude disabled veterans (both payments and potential employment). While these two categories of income do provide additional economic benefits and tax revenues, they represent only 3.705% of the RMSP population in New Mexico in 2007, and the $973,000 in payments (which are already excluded from PIT, and thus would not change the number of disabled veterans moving to New Mexico) represents only 0.212% of the RMSP retirement payments.

In 2007 the total payments received by RMSP in New Mexico was more than $448 million. This comes from the 5,825 officers and 13,435 enlisted RMSP. The average monthly payment per officer was $3,133 and the average enlisted payment was $1,421. It is these direct payments that are being considered for an exemption from the New Mexico Personal Income Tax.

The total income from the RMSP household is comprised of the retirement payments from DOD plus other income received by the RMSP and their household members. Using the US Census Bureau's American Community Survey (ACS) data for 2007, the total household income generated by the RMSP household can be estimated. The average household income includes the following sources of money flowing into the RMSP household: (1) military retirement payments; (2) other retirement payments; (3) rental, interest, and other income payments; (4) post-retirement income of RMSP; and (5) spousal and other household member employment. This then represents the total value of monetary resources flowing into the RMSP household that will generate taxable spending, and to which the effective (average) tax rates on income can be applied.

The total average household income for RMSP was estimated at $86,161, and this was then multiplied by the total number of RMSP households in 2007 of 15,500 to yield the estimated direct

[2] This information is derived from the Department of Defense "Statistical Report on the Military Retirement System" compiled by the Department of Defense (DOD) Office of the Actuary. The information can be found on Numbered Page 21 of each of the Fiscal Year Annual Reports. These reports are available online at http://www.defenselink.mil/actuary/. "Military Personnel Receiving and Not Receiving Pay from DOD as of September 30, 200X (Payment in Thousands)". This data was accessed in September, 2008.

income of $1,335,493,315. This $1.335 billion represents the total income available to RMSP households, and includes the $448 million in RMSP retirement. The total household income should capture the major sources of benefit that each RMSP brings to the state as it measures all retirement income (both military and other sources), self-employment income, social security payments, interest income, and rental income. Total household income also includes any income earned from employment after military retirement as well as any employment of other household members.

Disposable personal income, defined as total income after taxes, is the best measure of income available for spending. New Mexico disposable personal income is, on average, 89.5% of total personal income. It will be assumed that RMSP will spend all of their disposable income. Given these assumptions, RMSP in New Mexico spend an estimated $1,195,266,517 of the $1,335 million of personal income. To calculate the impact on the NM economy this average income spent was distributed across nine income categories for households in the IMPLAN modeling software. By applying the total value of spending in each household disaggregated across income ranges as direct impacts in the NM economy the induced, indirect, and total impact associated with the RMSP in New Mexico can be calculated. Table 4 provides the spending values across the household types in IMPLAN, and these values are the direct impacts entered into the input-output model.

Table 4. Household Income Distribution (RMSP Population)

Household Income Range (IMPLAN Based Sectors)	Number	Percent	Income in Category	89.5% of Income (Percent of Income Spent)
Less than $10,000	95	0.61%	$ 248,460	$ 222,372
$10,000-$15,000	337	2.17%	$ 4,227,000	$ 3,783,165
$15,000-$25,000	564	3.64%	$ 11,525,560	$ 10,315,376
$25,000-$35,000	1,409	9.09%	$ 45,282,700	$ 40,528,017
$35,000-$50,000	1,956	12.62%	$ 81,914,800	$ 73,313,746
$50,000-$75,000	3,397	21.92%	$ 210,455,171	$ 188,357,378
$75,000-$100,000	3,172	20.46%	$ 278,714,814	$ 249,449,759
$100,000-$150,000	3,241	20.91%	$ 402,859,080	$ 360,558,877
$150,000(+)	1,329	8.57%	$ 300,265,730	$ 268,737,828
Total	**15,500**	**100%**	**$ 1,335,493,315**	**$ 1,195,266,517**

Table 5 and Table 6 provide the results of the IMPLAN modeling. The economic benefit associated with RMSP in NM can be measured by value added (state Gross Domestic Product), employment, and labor income.

Table 5 presents the estimated employment levels associated with RMSP from direct employment of the RMSP and the household members, as well as the indirect and induced employment from the spending of the household income in the state. RMSP employment is estimated at 11,055 and employment of RMSP household members is estimated at 10,665 for a total direct employment associated with RMSP of 21,720 (from ACS). The spending of the $1.195 billion of RMSP household income is estimated to result in an additional 7,800 jobs (the direct impact of the spending), 1,935 in indirect employment, and an additional 2,165 jobs in induced employment. The total employment associated with RMSP household spending is 11,899 full time equivalent jobs. The total employment associated with RMSP is then the sum of the direct employment of RMSP and the RMSP household members and the total (direct, indirect, and induced) employment from spending. It is estimated that 33,619 full time equivalent jobs can be attributed to RMSP in New Mexico in 2007.

Table 5. Employment Impacts from RMSP Households in New Mexico (No Displacement)

Direct Employment of Household Members	
RMSP Employment	11,055
Employment of RMSP Household Members	10,665
Total Direct Employment	*21,720*
Employment Impacts from RMSP Household Spending	
Direct	7,800
Indirect	1,935
Induced	2,165
Total Employment from RMSP Spending	*11,899*
Total Employment (Direct Employment + Spending Employment)	**33,619**

Table 6 presents the IMPLAN results for value added (state Gross Domestic Product or GDP) associated with the RMSP household spending of $1.195 billion. The direct value added is $453,810,931, the indirect value added is an additional $114,262,931, and the induced value added is $176,583,092. This results in an estimated contribution to state GDP from RMSP in New Mexico of $694,656,953.

Table 6. Value Added Impacts from RMSP Households in New Mexico (No Displacement)

Value Added	
Direct	$453,810,931
Indirect	$114,262,931
Induced	$126,583,092
Total	**$694,656,953**

The third main impact associated with RMSP in New Mexico is the labor income generated. Table 7 provides the IMPLAN results for labor income. It is estimated that the RMSP spending of $1.195 billion in the New Mexico economy generated an additional $222,151,826 in direct labor income, $68,276,061 in indirect labor income, and $65,643,545 in induced labor income. The total income generated in New Mexico by RMSP is the $1.335 million received by RSMP households and the $356 million generated as a result for RSMP spending for a total of $1,691,564,747.

Table 7. Income Impacts from RMSP Households in New Mexico (No Displacement)

Household Income	
Total Direct RMSP Household Income	*$1,335,493,315*
Labor Income from RMSP Spending*	
Direct	$222,151,826
Indirect	$68,276,061
Induced	$65,643,545
Total	$356,071,432
Total Income (Income+Spending Impacts)	$1,691,564,747

**Total Spending from the RMSP households is 89.5% of the $1.335 billion in household income, or $1,195,266,517.*

TAX REVENUES GENERATED BY RMSP

The central question of this analysis is to estimate what the impact of an exemption of RMSP military retirement pay from New Mexico Personal Income Tax (PIT) will have on tax revenues in the state. If the exemption induces enough additional RMSP to move to New Mexico, and if each new RMSP generates enough additional tax revenues to offset the losses to state revenues from the exemption, than the policy change will be revenue positive for the state. If, however, not enough RMSP move to the state and each RMSP does not generate enough additional revenues, than the policy will be revenue negative for the state. The tax revenue generated by each RMSP can be derived by using the total household income for the RMSP population in New Mexico multiplied by the average (or effective) tax rates on income. Three types of income based tax revenue will be considered: (1) gross receipts taxes, (2) personal income taxes and (3) corporate income taxes. These three taxes represent nearly eighty percent of the tax revenues received by the state in any one year and can be estimated with a high degree of confidence. Table 8 provides an historical picture of these selected taxes relative to the total taxes in New Mexico. From 2001 through 2007, these three taxes, on average, generate 78.63 percent of all New Mexico taxes (Popp and Peach, 2008).

Table 8. Selected New Mexico Taxes 2001-2007 (in Thousands)

Year	All New Mexico Taxes	GRT	GRT Percent of All Taxes	PIT	PIT Percent of all Taxes	CIT	CIT Percent of all Taxes	(GRT+ CIT+PIT) Percent of all Taxes
2001	$4,002,246	$2,083,196	52.05	$830,006	20.74	$190,673	4.76	77.55
2002	$3,628,055	$1,822,878	50.24	$982,891	27.09	$124,327	3.43	80.76
2003	$3,607,156	$1,873,420	51.94	$923,113	25.59	$101,546	2.82	80.34
2004	$4,001,780	$2,038,440	50.94	$1,007,248	25.17	$138,196	3.45	79.56
2005	$4,478,321	$2,170,521	48.47	$1,086,015	24.25	$242,462	5.41	78.13
2006	$5,110,683	$2,387,718	46.72	$1,123,954	21.99	$377,185	7.38	76.09
2007	$5,205,322	$2,483,021	47.7	$1,149,805	22.09	$425,087	8.17	77.96
Average			49.72		23.85		5.06	78.63

Source: State tax data from U.S. Bureau of the Census http://www.census.gov/govs/statetax/

There are a variety of techniques that could be used to estimate the revenues that would be generated by the economic activity resulting from spending in the state. The difficulty with most of the techniques is that they either entail a lack of data or the fact the tax law changes virtually every year. The technique used in this study uses historical data and averages. The relationship of each of the taxes to personal income is used to estimate the revenue changes.

PERSONAL INCOME TAXES

Table 9 provides historical data for personal income and NM personal income taxes. From 2001 to 2007, the ratio of NM personal income taxes to NM total personal income varied from 0.01854 to 0.02185. This implies that the effective average tax rate over that time period was between 1.8% and 2.1%. The average effective tax rate over the period was 1.977%. It is this rate that will be used to estimate the change in personal income tax revenues generated through the new economic activity.

Table 9. New Mexico Personal Income Taxes and Personal Income

PIT	NM PIT	NM Total Personal Income	PIT per $ of Total Personal Income
2001	830,006,000	44,138,165,000	0.0188
2002	982,891,000	44,986,517,000	0.02185
2003	923,113,000	46,650,275,000	0.01979
2004	1,007,248,000	50,707,317,000	0.01986
2005	1,086,015,000	53,714,363,000	0.02022
2006	1,123,954,000	58,131,416,000	0.01933
2007	1,149,805,000	62,001,991,000	0.01854
Averages			0.01977

Sources: PIT data from U.S. Bureau of the Census http://www.census.gov/govs/statetax/ TPI data from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System http://www.bea.gov

CORPORATE INCOME TAXES

Table 10 provides historical data for personal income and NM corporate income taxes. From 2001 to 2007, ratio of NM corporate income taxes to NM total personal income varied from 0.002177 to 0.006856. This implies that the effective average tax rate over that time period was between .21% and .68%. The average effective tax rate over the period was .42%. The relationship between personal income and corporate income tax revenues is not very stable. The reason for this is that corporate profits are related to the business cycle. The decrease in CIT revenue from 2002 through 2004 is associated with the national downturn in economic activity in 2001 and the subsequent recovery. As the economy came out of recession, corporate profits increased. Given this volatility and the economy was still somewhat robust during the time period under consideration, this study will use the 2007 average effective tax rate of .68856 to estimate the corporate tax revenue generated by the new economic activity.

Table 10. New Mexico Corporate Income Taxes and Personal Income

Year	CIT	NM Total Personal Income	CIT per Dollar of Total Personal Income
2001	$ 190,673,000	$ 44,138,165,000	$ 0.00432
2002	$ 124,327,000	$ 44,986,517,000	$ 0.00276
2003	$ 101,546,000	$ 46,650,275,000	$ 0.00218
2004	$ 138,196,000	$ 50,707,317,000	$ 0.00273
2005	$ 242,462,000	$ 53,714,363,000	$ 0.00451
2006	$ 377,185,000	$ 58,131,416,000	$ 0.00649
2007	$ 425,087,000	$ 62,001,991,000	$ 0.00686
Average			$ 0.00426

Source: U.S. Bureau of the Census and U.S. Department of Commerce, Bureau of Economic Analysis

GROSS RECEIPTS TAXES

Table 11 provides historical data for personal income and NM gross receipts taxes. From 2001 to 2007, the ratio of NM gross receipts taxes to NM total personal income varied from 0.04005 to 0.04720. This implies that the effective average tax rate over that time period was between 4% and 4.7%. The average effective tax rate over the period was 4.1%. It is this rate that will be used to estimate the change in gross receipts tax revenues generated through the new economic activity.

Table 11. NM Gross Receipts Taxes and Personal Income

Year	GRT	NM Total Personal Income	GRT per dollar of Total Personal Income
2001	$ 2,083,196,000	$ 44,138,165,000	$ 0.04720
2002	$ 1,822,878,000	$ 44,986,517,000	$ 0.04052
2003	$ 1,873,420,000	$ 46,650,275,000	$ 0.04016
2004	$ 2,038,440,000	$ 50,707,317,000	$ 0.04020
2005	$ 2,170,521,000	$ 53,714,363,000	$ 0.04041
2006	$ 2,387,718,000	$ 58,131,416,000	$ 0.04107
2007	$ 2,483,021,000	$ 62,001,991,000	$ 0.04005
Average			$ 0.04137

Source: U.S. Bureau of the Census and U.S. Department of Commerce, Bureau of Economic Analysis

Total gross receipts revenues collected by the state are not kept by the state. The state collects all gross receipts revenues and returns a portion to local governmental units. Approximately 43% of the revenues are subsequently distributed to those units.

EFFECT OF THE PIT EXEMPTION ON TAX REVENUES

The initial effect of the PIT exemption on tax revenues is shown in Table 12. Under the current policy, RMSP generate more than $33.442 million in PIT, $11.587 million in CIT, $39.092 million in GRT to the State, and $30.092 million in GRT to county and local entities. In total, it is estimated that RMSP generate $115,009,487 annually in tax revenues. Under the proposed exemption, it is estimated that the first year loss from the exemption would be $8,857,593. This $8.85 million loss is the total taxable income from the RMSP households multiplied by the effective personal income tax rate ($1,691,546,747 x 1.977%). If no new RMSP moved into the state, total tax revenue collected by the state would fall by $8.85 million each year.

Table 12. Tax Impacts of Current RMSP Households

	Current Tax Policy			RMSP Retirement Pay Exempt from PIT			
	Effective Rate	**Personal Income**	**Tax Revenues Collected**	**Effective Rate**	**Personal Income**	**Tax Revenues Collected**	**Difference in Tax Revenues (Year 1)**
Personal Income Tax	1.977%	$1,691,564,747	$33,442,235	1.977%	$1,243,532,747	$24,584,642	$8,857,593
Corporate Income Tax	0.685%	$1,691,564,747	$11,587,219	0.685%	$1,691,564,747	$11,587,219	$-
GRT to State	2.358%	$1,691,564,747	$39,887,097	2.358%	$1,691,564,747	$39,887,097	$-
GRT County, Local Entities	1.779%	$1,691,564,747	$30,092,937	1.779%	$1,691,564,747	$30,092,937	$-
Totals	**6.799%**	--	**$115,009,487**	--	--	**$106,151,895**	**$8,857,593**

Table 12 displays tax revenues collected under the current and proposed policy. The estimated $8.85 million in lost revenues from the PIT represent the loss in revenues from the current 19,260 RMSP in the state. In future years, the impact on state tax revenues is related to the number of new RMSP that move into the state because each new RMSP brings in additional income that generates taxable income both directly and through the multiplier effect; but each new RMSP also generates an additional tax loss from the PIT exemption in addition to the loss of the existing RMSP. For the PIT exemption to be a revenue generating policy for the state, the number of new RMSP that move to the state must be sufficiently high to offset the initial $8.85 million revenue loss plus the loss from the new population of RMSP. Under the current policy, each RMSP generates $5,971 of revenue for the state. Under the proposed policy each RMSP generates $5,512 in revenues. This means that the proposed policy generates an average loss of $460 per RMSP. Using the revenue generated per RMSP it would take an additional 1, 606 RMSP to offset the total tax revenue loss of $8.85 million ($8.85 million/$5,512) in the first year. To offset the $8.85 million in lost PIT revenues, the policy would need to result in an 8.3% increase in RMSP to offset the total loss in all revenues. This calculation assumes all gross receipts revenues go to the state. If the portion that generally is redistributed to the local government agencies is excluded, the number of new RSMP needed for the state to break even is 2,243. This represents an 11.64 % increase in RMSP. Table 13 summarizes this information.

Table 13. Needed RMSP for Policy Neutrality (Total Revenues Collected and General Fund Only)

	All Revenues Collected	**General Fund Revenues Only**
Tax Revenue Collected before Exemption	$5,971	$4,409
Tax Revenue Collected after Exemption	$5,512	$3,949
Tax Loss in Year 1	$8,857,593	$8,857,593
Number of RMSP Needed for Neutrality	1,606	2,243
Percent Increase of RMSP Needed	8.34%	11.65%

ESTIMATED GROWTH IN RMSP

The main uncertainty in analyzing the effect of the PIT exemption is how many new RMSP will actually move to the state. There is little information upon which to estimate how many new retirees will result from an exemption. A review of the literature indicated that tax considerations do play a role in determining where retirees settle, but that they are not the only, or necessarily the most important, consideration.

To estimate a potential rate of growth of RMSP for New Mexico, the DOD Statistical Reports from 2000-2007 for both New Mexico and Wisconsin were analyzed. The New Mexico numbers would give an indication of what would occur if the state maintained its present growth rate. As of January 2001 the state of Wisconsin implemented a 100% exemption for RMSP retiree pay from state personal income taxes. The Wisconsin numbers would give an indication of what might occur in New Mexico. Ideally the change in growth rates in Wisconsin after the implementation of the exemption should be used but data prior to 2001 are not readily available.

Table 14 shows the growth rates for New Mexico and Wisconsin from FY 2001 to FY 2007. The average rate of growth of retirees in Wisconsin over this period, which is the period over which they implemented the PIT exemption, was 2.93% average per year. This compares with the New Mexico average growth rate of 1.52%. To estimate a value for the growth in retirees under a NM PIT exemption, the New Mexico average growth rate assumed to be equal to the Wisconsin average growth rate. This yields an estimated growth rate of retirees of 2.93% per year resulting from the PIT exemption. Ideally, this estimated growth rate would be calculated using multiple states, a larger time series, and incorporate additional information regarding retirement decisions. However, there is no readily available data regarding this information and it would need to come from a specific survey instrument. However, using information from the DOD Statistical Reports and the US Census yields some insight into the behavior of RMSP in response to PIT Exemptions.

Table 14. Percent Change in Total Number of Retirees

	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	Average Change Since 2001-2002
New Mexico	-0.50%	-0.46%	5.05%	1.82%	1.81%	1.40%	1.52%
Wisconsin	1.04%	5.92%	1.54%	1.87%	3.12%	4.11%	2.93%

Note: This data comes from the DOD Annual Statistical Reports from the Department of the Actuary, Fiscal Year Reports 2001-2007.

As described in Part I, the exemption of veterans retirement benefits is a consideration in the choice of retirement locations, but there is little evidence to suggest that it will result in a dramatic increase in the number of RMSP that choose to settle in New Mexico. The Wisconsin experience is consistent with the results of the Cowper et al. (2001) and Jackson and Day (1993) studies, as well as the ACS data. The available evidence suggests that the largest factors in the choice of retirement location are climate, recreational activities, proximity to military bases, and areas that have growing populations but are not densely populated.

CHANGES IN TAX REVENUE OVER TIME

The changes in tax revenues generated by RMSP in New Mexico are projected over a five year time horizon in Tables 15, 16, and 17. In Table 15, an annual growth rate of 1.52% is used. This corresponds with the historic growth rate for RMSP in New Mexico. In Table 16 an annual growth rate of 3.04% is used. This growth rate is similar to the Wisconsin experience and is double the existing growth rate in New Mexico. In Table 17 the changes in tax revenues are shown for an annual growth rate of 5%. Note that the tax revenues used in these tables include the gross receipt revenues that would be distributed to the local governmental units.

As shown in Table 15, at the average historic growth in RMSP the new revenue generated by each RMSP is not enough to offset the initial and ongoing loss of revenues from the exemption. By year five, at a 1.52% growth rate, the policy is estimated to result in more than $46.349 million in lost tax revenues (including the revenues from GRT returned to the counties/localities). The yearly losses in PIT revenues are replicated in Tables 16 and 17 since they represent the loss resulting from RSMP that would have retired to the state without the exemption.

Table 15. Tax Revenue Impacts Over Time (1.52% Growth Rate)

	Year 1	Year 2	Year 3	Year 4	Year 5
Yearly Increase in RMSP	293	297	302	306	311
Cumulative Increase in RMSP	293	590	892	1,198	1,509
Yearly Loss in PIT Revenues	($8,992,259)	($9,128,971)	($9,267,762)	($9,408,662)	($9,551,704)
Cumulative Loss	($8,992,259)	($18,121,229)	($27,388,991)	($36,797,653)	($46,349,357)

As shown in Table 16, if the policy change induces an annual increase in RMSP of 3.04% (which is slightly more than the estimated response to the Wisconsin policy change), then by year five the annual loss in revenue is down to $721,110 and the loss would be offset by year 6, but the policy would still result in a cumulative loss in revenues in year 5 of more than $20.633 million. In year ten, all losses would be offset and there would be a positive overall gain to the state.

Table 16. Tax Revenue Impacts Over Time (3.04% Growth Rate)

	Year 1	Year 2	Year 3	Year 4	Year 5
Yearly Increase in RMSP	586	603	622	641	660
Cumulative Increase in RMSP	586	1,189	1,810	2,451	3,111
Yearly (Loss) in PIT Revenues	($8,992,230)	($9,128,971)	($9,267,762)	($9,408,662)	($9,551,704)
Yearly Gain in Revenues	$1,613,649	$3,300,880	$5,064,304	$6,906,614	$8,830,594
Yearly Loss in PIT Revenues	($7,378,581)	($5,828,090)	($4,203,458)	($2,502,048)	($721,110)
Cumulative Loss	($7,378,581)	($13,206,671)	($17,410,129)	($19,912,176)	($20,633,287)

As shown in Table 17, at a hypothetical annual growth rate of 5%, the RMSP PIT exemption would cover the revenue loss and be generating net revenues for the state by year 3. By the end of year 3 the policy would generate an estimate $8.048 million in tax revenues (including the GRT collected

for the counties/localities). By the end of the fifth year it is estimated the policy would generate more than $64.323 million in total revenues and a total RMSP population of 7,841 (at the assumed 5% growth per year of RMSP).

Table 17. Tax Revenue Impacts Over Time (5% Growth Rate)

	Year 1	Year 2	Year 3	Year 4	Year 5
Yearly Increase in RMSP	963	1,011	1,062	1,115	1,171
Cumulative Increase in RMSP	963	1,974	3,036	4,151	5,321
Yearly (Loss) in PIT Revenues	($8,992,230)	($9,128,971)	($9,267,762)	($9,408,662)	($9,551,704)
Yearly Gain in Revenues	$3,694,407	$7,629,689	$24,113,816	$32,968,616	$42,266,156
Yearly Loss in PIT Revenues	($5,297,823)	($1,499,281)	$14,846,054	$23,559,954	$32,714,451
Cumulative Loss	($5,297,823)	($6,797,104)	$8,048,950	$31,608,904	$64,323,356

The tax impacts presented in Tables 15 through 17 show the number of RMSP generated at the respective growth rates over a five year time horizon. These growth tables and the resulting revenue impacts show the total taxes collected by the state under the proposed exemption. However, the total tax collected does not all flow to the General Fund, as a portion of the Gross Receipts Tax is collected on behalf of various city and county entities across the state. If only the amount of revenue that is contributed to the General Fund is considered, it will take more RMSP and a higher growth rate for the proposed exemption to be revenue neutral.

If all tax revenues are considered, an increase of 8.34% in RMSP is needed to offset the loss in PIT revenues. As noted earlier, if only the revenues that flow to the General Fund are considered then an increase of 11.65% in RMSP is needed to offset the initial (base) loss in PIT revenues. The tax revenue collected for the General Fund after the exemption falls to $3,949 per RMSP from $5,512, and a total of 2,243 new RMSP would be needed to offset the initial $8.857 million PIT loss.

OTHER CONSIDERATIONS

The foregoing analysis presents impacts based on certain assumptions. If those assumptions do not hold, then the impacts will change. It should also be noted that the calculations of increased tax revenues do not include all revenues to all governmental units generated by RMSP. In particular, property taxes paid by RMSP have not been included. Also not included are the increases in cost of services that the governmental units would provide to these individuals. The amount of services would be less since many of the RMSP households do not include children and medical insurance is supplied by the federal government.

It is assumed that RMSP and other members of their households do not displace other New Mexicans in the labor market. This assumption holds for existing and new RMSP. If they have or will displace other workers, then the revenues they generate are not new revenues and the number of retirees to offset the loss in revenues would need to be larger.

It is also being assumed that the new RMSP would be similar to the existing RSMP. There is an argument to be made that the new RMSP will bring in higher retirement pay and may be more skilled. Because active military pay levels are now higher, RMSP will have higher retirement pay and spend more, generating higher levels of spending impacts. The skill levels of military personnel are also higher and will enable them to fill private job positions that have higher pay levels. This will generate larger tax revenues to the state. However, it is problematic to estimate these on a per RMSP level for future retirees, and so this analysis uses current RMSP information and does not attempt to predict changes to the RMSP profile or expenditures.

Types of spending that are not considered in this analysis are health care expenditures and Veteran's Affairs expenditures made on behalf of RMSP. Table 18 provides a summary of the Department of Veterans Affairs expenditures for 2007. New RMSP would certainly increase the level of expenditure, but on a per-RMSP level, this is difficult to estimate. Little information is available that would allow a per-RMSP health or DVA expenditure to be constructed. The health care benefits for RMSP depend upon retirement status and eligibility for Medicare and other private health insurance. Health expenditures through TRICARE are available to retired personnel who are not eligible for Medicare. Health care expenditures paid by the federal government on behalf of the new retirees would represent additional spending and would generate additional revenue to the state. This inclusion of these types of expenditures would increases the impact of additional RMSP and would require less additional RMSP for the state to break even.

Table 18. Department of Veterans Affairs Expenditures for Fiscal Year 2007 (in $1,000's)

Veteran Population	Total Expenditure	Compensation & Pension	Construction	Education & Vocational Rehabilitation	General Operating Expenses	Insurance & Indemnities	Medical Care
179,497	$771,533	$399,911	$2,644	$33,233	$10,139	$12,371	$313,232

Notes: Veteran population estimate as of September 30, 2007 by the VA Office of the Actuary (VetPop 2007). Expenditure data sources: Federal Assistance Awards Data System (FAADS) for Compensation & Pension (C&P) and Readjustment and Vocational Rehabilitation Benefits; Veterans Benefits Administration Insurance Center for the Insurance costs; the VA Financial Management System (FMS) for Construction, Medical Research, General Operating Expenses, and certain C&P and Readjustment data; and the Allocation Resource Center (ARC) for Medical Care costs.
http://www1.va.gov/vetdata/docs/GDX_FY07.xls

The proposal to exempt RMSP retirement payments also includes the exemption for survival spouse payments. A profile of this group is not available. A similar analysis would need to be done to determine if the exemption would bring in more revenues to the state. If those individuals are not working then the exemption would lead to a decrease in revenues to the state. If they do work and do not displace other workers, the overall gain or loss would depend on how many would be enticed to move into the state.

CONCLUSIONS

RMSP bring substantial benefits to the state resulting from the retirement benefits and from the employment in which they engage. The average RMSP household in New Mexico has a higher average household income than the general population household and the average RMSP individual has a higher educational attainment than the population as a whole. The employment of individuals in RMSP households and the employment resulting from spending by these households are estimated to be as high as 33,619 jobs. Total household income of RMSP and income generated through spending by these households generates as much as $1,691,564,747 in personal income in the state.

On average each RMSP generates $5,971 in revenues collected by the state, and this value would decline to an average of $5,512 per RMSP under the proposed exemption. The proposed exemption of RMSP retirement pay from personal income taxes will result in a loss of $8,857,593 per year, and it would take an increase of 1,606 RMSP for the policy to recover the loss of PIT revenues, *including the GRT revenues distributed back to the county/local entities*. This represents a growth rate of 8.34% that would be needed to offset the losses in tax revenues generated by the PIT exemption on RMSP retirement pay. If the amount collected for other entities is excluded, then a growth rate of 11.65% in RMSP is needed to offset the initial PIT loss.

While tax rates do influence the decision on where to retire, tax rates are not the only determinant. New Mexico is an attractive retirement location for RMSP and other retirees. The significant number of military installations, the level of medical services, environmental amenities, and pleasant weather indicate that New Mexico will continue to attract significant numbers of RMSP. The exemption of retirement pay from the personal income tax would provide one more reason for retired military service personnel to retire to the state. Whether or not the exemption will generate enough other revenues to recover the $8.857 million loss in PIT revenues depends on the number of RMSP that will be attracted to the state.

APPENDIX A

RMSP EMPLOYMENT

Table A1. Employment of RMSP by Industry

NAICS Code	Industry Description	Number of RMSP Employed in Industry
111	AGR-CROP PRODUCTION	280
112	AGR-ANIMAL PRODUCTION	38
2123	EXT-NONMETALLIC MINERAL MINING AND QUARRYING	71
23	CON-CONSTRUCTION, INCL CLEANING DURING AND IMM AFTER	653
3336	MFG-ENGINES, TURBINES, AND POWER TRANSMISSION EQUIPMENT	154
334M2	MFG-ELECTRONIC COMPONENTS AND PRODUCTS, N	132
33641M1	MFG-AIRCRAFT AND PARTS	239
33641M2	MFG-AEROSPACE PRODUCTS AND PARTS	172
3391	MFG-MEDICAL EQUIPMENT AND SUPPLIES	141
42393	WHL-RECYCLABLE MATERIAL MERCHANT WHOLESALERS	62
4247	WHL-PETROLEUM AND PETROLEUM PRODUCTS MERCHANT WHOLESALERS	106
4411	RET-AUTOMOBILE DEALERS	62
4413	RET-AUTO PARTS, ACCESSORIES, AND TIRE STORES	76
442	RET-FURNITURE AND HOME FURNISHINGS STORES	99
4441Z	RET-BUILDING MATERIAL AND SUPPLIES DEALERS	354
4451	RET-GROCERY STORES	92
446Z	RET-HEALTH AND PERSONAL CARE, EXCEPT DRUG, STORES	172
447	RET-GASOLINE STATIONS	84
45121	RET-BOOK STORES AND NEWS DEALERS	63
45211	RET-DEPARTMENT AND DISCOUNT STORES	186
45322	RET-GIFT, NOVELTY, AND SOUVENIR SHOPS	84
4533	RET-USED MERCHANDISE STORES	88
481	TRN-AIR TRANSPORTATION	158
482	TRN-RAIL TRANSPORTATION	120
484	TRN-TRUCK TRANSPORTATION	65
488	TRN-SERVICES INCIDENTAL TO TRANSPORTATION	51
491	TRN-POSTAL SERVICE	250
492	TRN-COURIERS AND MESSENGERS	88
493	TRN-WAREHOUSING AND STORAGE	159
4M	RET-SPORTING GOODS, CAMERA, AND HOBBY AND TOY STORES	227
5121	INF-MOTION PICTURES AND VIDEO INDUSTRIES	40
5171	INF-WIRED TELECOMMUNICATIONS CARRIERS	96

52M2	FIN-SECURITIES, COMMODITIES, FUNDS, TRUSTS, AND OTHER	127
531	FIN-REAL ESTATE	88
5411	PRF-LEGAL SERVICES	87
5413	PRF-ARCHITECTURAL, ENGINEERING, AND RELATED SERVICES	279
5415	PRF-COMPUTER SYSTEMS DESIGN AND RELATED SERVICES	522
5416	PRF-MANAGEMENT, SCIENTIFIC AND TECHNICAL CONSULTING	414
5417	PRF-SCIENTIFIC RESEARCH AND DEVELOPMENT SERVICES	544
5614	PRF-BUSINESS SUPPORT SERVICES	57
5615	PRF-TRAVEL ARRANGEMENTS AND RESERVATION SERVICES	93
5616	PRF-INVESTIGATION AND SECURITY SERVICES	385
5617Z	PRF-SERVICES TO BUILDINGS AND DWELLINGS, EX CONSTR CLN	54
6111	EDU-ELEMENTARY AND SECONDARY SCHOOLS	319
611M1	EDU-COLLEGES AND UNIVERSITIES, INCLUDING JUNIOR COLLEGES	325
611M2	EDU-BUSINESS, TECHNICAL, AND TRADE SCHOOLS AND TRAINING	91
6212	MED-OFFICES OF DENTISTS	100
62131	MED-OFFICE OF CHIROPRACTORS	41
6214	MED-OUTPATIENT CARE CENTERS	141
621M	MED-OTHER HEALTH CARE SERVICES	74
622	MED-HOSPITALS	155
623M	MED-RESIDENTIAL CARE FACILITIES, WITHOUT NURSING	56
6242	SCA-COMMUNITY FOOD AND HOUSING, AND EMERGENCY SERVICES	245
711	ENT-INDEPENDENT ARTISTS, PERFORMING ARTS, SPECTATOR	155
713Z	ENT-OTHER AMUSEMENT, GAMBLING, AND RECREATION INDUSTRIES	142
7211	ENT-TRAVELER ACCOMMODATION	120
722Z	ENT-RESTAURANTS AND OTHER FOOD SERVICES	42
8111Z	SRV-AUTOMOTIVE REPAIR AND MAINTENANCE	174
8112	SRV-ELECTRONIC AND PRECISION EQUIPMENT REPAIR AND	68
8122	SRV-FUNERAL HOMES, CEMETERIES AND CREMATORIES	145
8131	SRV-RELIGIOUS ORGANIZATIONS	66
813M	SRV-CIVIC, SOCIAL, ADVOCACY ORGANIZATIONS, AND	71
923	ADM-ADMINISTRATION OF HUMAN RESOURCE PROGRAMS	115
928110P1	MIL-U	81
928110P2	MIL-U	1456
928110P6	MIL-U	203
928P	ADM-NATIONAL SECURITY AND INTERNATIONAL AFFAIRS	2186
92M2	ADM-ADMINISTRATION OF ECONOMIC PROGRAMS AND SPACE	74
92MP	ADM-JUSTICE, PUBLIC ORDER, AND SAFETY ACTIVITIES	395

APPENDIX B

A BRIEF REVIEW OF INPUT-OUTPUT ANALYSIS FROM LILLYWHITE AND STARBUCK, 2008[3]

Input-Output analysis was initially developed by Wassily W. Leontief in the 1930s. Founded in general equilibrium analysis, input-output analysis was initially used as a tool to model national economies but is currently used extensively to examine economic impacts to regional economies as well. Input-output analysis quantifies the interrelationships between sectors of a complex economic system, detailing the movement of dollars between producers and consumers of goods and services within an economy. The approach uses structural coefficients that represent the relationship between inputs in the production process (factors of production) and the resulting outputs produced by each sector. The interdependence between sectors is modeled using a set of linear equations that balance a sector's total input use to the sector's total output. Assumptions commonly made in input-output analysis include: (1) each sector produces homogeneous outputs (e.g., underlying product value differences within a sector are not considered, rather the analysis examines total output and input usage in terms of dollar amounts); (2) linear production functions (factor substitution or economies of size are not considered); and (3) time is treated statically within the model and factors of production within the sectors are assumed to be fully utilized (Lillywhite and Starbuck 2008, Pg. 27).

DIRECT EFFECTS

Direct effects are estimates of dollar impacts to the economy resulting from production by businesses within the sector under consideration. That is, a particular sector's direct effect on the economy is the amount of money generated by the sector through sales of its products and/or services.

INDIRECT EFFECTS

Indirect effects are impacts to the economy as the result of industry businesses purchasing inputs from other industry sectors within the economy, that is, the production in other industries resulting from input demands generated by the primary industry.

INDUCED EFFECTS

Finally, induced effects are the value of increased spending by households resulting from the increase in income that was generated through the direct and indirect effects discussed above (Lillywhite and Starbuck 2008, Pg. 27-28).[4]

IMPLAN OUTPUT[5]

[3] This review is taken from Lillywhite and Starbuck (2008), and was originally written by Jay Lillywhite, Ph.D., New Mexico State University Department of Agriculture and Home Economics.

[4] Estimation of induced effects requires the economic system be treated as a closed system so that consumers are considered part of the production process. In the IMPLAN software used for this analysis, closing the system requires the use of the SAM (Social Accounting Matrix) multiplier.

IMPLAN generates a large number of reports and information anytime an impact event is analyzed. The values usually reported are the: output, value added, labor income, and employment generated by the event. The following description is directly adapted from the IMPLAN website and user manual available at http://www.implan.com.

OUTPUT

The output values reported in IMPLAN is the industry output valued in dollars generated by the event being analyzed. The output values reported in IMPLAN and their associated multipliers can be used to gauge the level of interdependence between the event sectors and the rest of the regional economy. Large output values related to the direct output values (which are equivalent to a large multiplier) indicate a high level of interdependence between the industries and will result in a larger impact of that sector on the regional economy (IMPLAN, 2008).

VALUE ADDED

Value Added is comprised of four components: Employee Compensation; Proprietary Income, Other Property Type Income, and Indirect Business Taxes. The employee compensation includes benefits such as health and life insurance, retirement payments, and non-cash payments in addition to wages and cash payments. Proprietary income is defined as the income from self-employment as reported on Federal Tax Form 1040C, and includes any and all payments for self-employment. Indirect business taxes are excise and sales taxes paid by individuals to businesses. These taxes are collected during the normal operation of the businesses impacted by the event being analyzed, and do not include taxes on profit or income (IMPLAN, 2008).

LABOR INCOME

The labor income values show the direct, indirect, and induced employee compensation plus proprietor income effects generated by the impact event (IMPLAN, 2008).

EMPLOYMENT

Employment is the total wage and salary and self employed jobs in a region. In this study the employment values reflect the total jobs created which includes both full-time and part-time labor to generate a total full-time equivalent number of jobs which allows for fractional values to be reported (IMPLAN, 2008).

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[5] This section comes from the IMPLAN System Description as part of the user manual for the IMPLAN software. The information reported above is a summary of the information available at http://implan.com/downloads/documents/implan_io_system_description.pdf. This information can be found on pages 11-14 of the "The IMPLAN Input-Output System". Accessed on November 4, 2008.

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