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ECONOMIC IMPORTANCE OF MILITARY SPENDING IN MINNESOTA

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Summary

In 1987, Minnesota firms received $2.7 billion in primary contracts, or 3.3 percent of the $80.7 billion US primary procurement contract awards. Non-procurement expenditures amounted to $314 million, or less than 0.2 of one percent of the $193.3 billion Pentagon non-procurement outlays.

A 25-percent reduction in procurement expenditures and a 12.5 percent reduction in non-procurement expenditures--reductions that are close to current proposals for military spending and that are consistent with reduced US military commitments in Europe and Asia--would mean a $606 million cutback in the Minnesota share of the total procurement expenditures and a $40 million cutback in the Minnesota share of the total nonprocurement expenditures. The corresponding US taxpayer savings from these reductions in Pentagon expenditures would total to $44.3 billion. A Minnesota tax share pegged at its 1987 rate of nearly 1.77 percent would yield a total tax saving of $756.8 million for Minnesota residents.

The reduced military spending could make possible an increase in personal consumption expenditures. The reduced military spending could also make possible a corresponding reduction in the federal budget deficit or an increase in federally-funded state and local government services.

A reduction of the federal budget deficit could reduce the rate of increase in federal interest expenses and thus improve long term viability of both public and private agencies. On the downside, a sharp reduction in the federal budget deficit may trigger a recession. Only the downside effects of reduced military spending in Minnesota are covered in this report.

An increase in federal outlays to state and local governments--the second of the three options discussed in this report--would retain existing levels of federal spending, but with an allocation that is likely to be a larger proportion of the total outlay than in the case of military spending. Such spending would address the rebuilding of an improverished infrastructure and help finance education and other services that are essential requirements for a productive and successful domestic economy.

An increase in consumer spending--the third option presented in this report--would more than replace the loss of jobs due to the 25-percent cut in military procurement spending. The consumer spending option, however, would not provide for any added spending on public infrastructure and services.

The study results show a much greater importance of military spending in Minnesota than simply the direct Pentagon purchases. A large military spending multiplier results in a large indirect effect attributed to the Pentagon procurement activities. The large multiplier, in turn, is attributed to an extensive private infrastructure of input suppliers for the largely technology-intensive manufacturing activities. Finally, the three scenarios used in this study show critical differences in the economic effects of the military and civilian spending options.

A reduction in military procurement outlays means a commensurate job loss only if alternative job openings are not available. In the present recovery phase of the business cycle, a reduction in military spending relaxes an important labor market constraint and makes possible expansion of technology-intensive production in Minnesota for still expanding domestic and world markets. In recession, however, Minnesota manufacturing employment would suffer twice over--once from the reductions in military spending and again from likely recession-related reductions in domestic and foreign exports and related high labor earnings employment.

The bottom line is that a 25 percent reduction in military procurement spending and a 12.5 percent reduction in military nonprocurement spending would yield an initial Minnesota conversion dividend in excess of $150 million. This amount is large enough to more than cover the downside economic effects of the spending reductions, given a 3.3 percent share of US military procurement spending in Minnesota.

If the Minnesota federal tax savings of $757 million from the related reductions in military spending were used entirely to reduce the current federal fiscal deficit, the loss to the Minnesota economy would be the $606 million in military procurement plus its indirect and induced effects which would amount to an additional $1.8 billion of industry output. Lacking governmental and private sector efforts to facilitate labor retraining and mobility, the negative effects would persist as long as layed-off workers are not engaged in producing for civilian export and residentiary markets.

The threat of worker layoffs and business dislocation has been a strong motivation for supporting high levels of military spending especially in communities and regions heavily dependent on Pentagon dollars. The study findings show, however, that many US budget neutral options exist that create more jobs and economic activity than military spending which is, indeed, a jobs program that benefits a few at the expense of many. Unlike one or more domestic spending options, it fails to add to the nation's much-needed civilian investment in public infrastructure and education.

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Pentagon military procurement contracts of $25,000 and over awarded to Minnesota firms totaled to slightly more than $2.4 billion in 1987. Other military expenditures (including $239 million of procurement contracts of under $25,000) brought the total Pentagon spending for Minnesota to near $3 billion. The direct military expenditures in Minnesota of $2.4 billion (on contracts of $25,000 and over) and the 27.3 thousand jobs supported by the expenditures were less than 1.4 percent of all industry sales and jobs in 1987. Despite these small percentages, virtually every industry in Minnesota has been affected by the US military procurement activities.

Strong in-state industry linkages back to the input supplier clusters result in large indirect effects of the military procurement expenditures. The recycling of the additional income in household and business final purchases results in further induced effects that account for a even larger long-term basic military spending "multiplier". This total effect--direct plus indirect and induced--translates the total effect of the $2.4 billion of direct spending into an increase of 116 thousand jobs, $2.9 billion in labor earnings, $4.8 billion in gross state product, and $9.0 billion in gross industry output.

Military Procurement and Industry Dependency

The economic importance of military spending is readily demonstrated by comparing military-related with total employment, labor earnings, value added and gross output of individual industry groups. Total employment refers to the total number of jobs in a given industry. Labor earnings refers to the wages and salaries and other labor income received by the remuneratively employed, including self-employed. Value added is the sum of labor earnings, indirect business taxes (like sales and property) and other value added that,in turn, covers the dividend and income tax liabilities incurred in the current period, plus a residual "retained earnings" or "surplus".

Military procurement accounted for 16 percent of total employment in Minnesota's durable goods manufacturing, 19 percent of its labor earnings and value added, and 16 percent of its gross output in 1987. Moreover, the durable goods manufacturing sector accounted for 26 percent, 41 percent, 33 percent and 35 percent, respectively, of the total military-related employment, labor earnings, value added and gross output. Military procurement thus accounts for 16 to 19 percent of the total durable goods manufacturing activivity in Minnesota. Conversely, durable goods manufacturing accounts for even larger--26 to 41 percent--shares of military procurement-related activity.

Comparisons of military procurement spending total effects with total industry sales for specific industries yield widely varying rates of dependency on the US military presence in Minnesota in 1987, as shown below:

Sector	Employment Total (thou.)	Employment Military (thou.)	Labor Earnings Total (mil.$)	Labor Earnings Military (mil.$)	Value Added Total (mil.$)	Value Added Military (mil.$)	Gross Output Total (mil.$)	Gross Output Military (mil.$)
Agr., For., Fish	53.0	0.7	352	6	1964	33	6744	122
Mining	9.4	0.0	216	1	292	2	644	4
Construction	60.4	4.9	2325	198	2681	230	6566	608
Mnfg., Nondurable	139.0	3.3	3681	90	5708	149	21668	596
Mnfg., Durables	195.3	29.8	5716	1088	7506	1419	17505	2862
Tran., Communications,Pub.Util.	95.4	5.3	2896	175	5398	333	11144	705
Trade	574.4	3.7	8359	471	13795	798	21950	1269
Finance, Insurance, Real Estate	138.1	7.6	3374	190	17979	953	24884	1332
Private Services	498.9	27.8	9609	522	13890	780	23608	1307
Government	367.5	5.4	9628	142	9461	143	9981	178
Total	2131.5	116.5	45756	2883	78673	4846	144693	8983

The military procurement expenditures and their direct and indirect effects on Minnesota industries provide one measure of their economic importance. Another measure is the total dollar value of federal taxes collected from Minnesotans allocated on a pro-rata basis to the support of this spending.

In 1987, Minnesota firms received $2.7 billion in primary contracts, (including $239 million in contracts under $25,000), or 3.3 percent of the $80.7 billion US primary procurement contract awards. Non-procurement expenditures amounted to $314 million, or less than 0.2 of one percent of the $193.3 billion Pentagon non-procurement outlays. A 25-percent reduction in procurement expenditures (in contracts of $25,000 or more) and a 12.5 percent reduction in non-procurement expenditures by the Pentagon would mean a $606 million cutback in the Minnesota share of the total procurement expenditures and a $40 million cutback in the Minnesota share of the total nonprocurement expenditures. The corresponding tax savings from these reductions in Pentagon expenditures would total to $44.3 billion. A Minnesota tax share pegged at its 1987 rate of nearly 1.77 percent would yield a total tax saving of $760 million for Minnesota residents. This tax saving could be used to reduce the federal budget deficit, or support federally-funded state and local government services, or reduce taxes paid by the individual taxpayer who, in turn, could use the tax saving for personal consumption expenditures.

Economic Conversion Scenarios

Each of three spending options—one military, one social and one personal--and two combinations of the three options are presented in this report. The bottom line for each option is the 1987 dollar value of the total effect on all industries of the initial set of final purchases, as summarized in Table 1 (and Table 1A in Appendix A).

Option 1 provides for a 25 percent reduction in US military procurement. For Minnesota this option means a reduction of $606 in direct purchases, with the ordnance, computer, and communications equipment industries accounting for nearly 60 percent of the total.

Options 2 and 4--increased domestic spending for community infrastructure, education, health care and transfer payments to individuals--depend largely on the products of the services-producing industries. The state and local government services option postulates a distribution of federal support to state and local governments as follows:

Functional area	Total Value (mil. $)
Housing construction	31.49
Roads and bridges	137.36
Other construction	39.45
Education	78.20
Child care	2.77
Health care	313.44
Job retraining	22.36
Product and market development	7.89
Forest and soil conservation	3.02
EPA enforcement	2.68
Transfer payments to individuals	182.31
Total	820.97

The distribution of the federal outlay to individual purchasing and producing sectors in the computer simulation model is summarized in Table 2 (and Table 2A in Appendix A). In the personal spending option, the entire $756.8 million is allocated to producing industries in proportion to each industry's importance in total personal consumption expenditures in 1987.

Options 3, and 5 are combinations of Options 1, 2 and 4. Option 3 is combined Option 1 and Option 2. Option 5 is a combination of Option 1 and Option 4.

Direct purchases under each option compare with the gross output of corresponding industries, the first being the 10 industries with the largest military procurement dependency. They are as follows:

Industry Groups	Purchases by Spending Option 1	2	3	4	5	Industry Output
	--million dollars--					
Ordnance	-170.9	0.0	-170.8	0.0	-170.8	781
Computing	-90.5	0.3	-90.2	0.1	-90.4	2707
NonElectr. Mach. NEC	-16.5	3.4	-13.2	0.7	-15.9	3022
El. Ind. Appar.	-38.4	0.9	-37.5	0.0	-38.4	815
Communications Equipment	-55.4	1.7	-53.7	0.0	-38.4	265
Other Trans. Equip.	-45.2	0.3	-44.9	0.8	-44.4	334
Prof. & Scientific Instruments	-64.9	0.9	-64.0	0.1	-64.9	547
Misc. Instruments	-38.2	3.1	-35.1	0.7	-37.5	360
Misc. Manufacturing	8.5	3.1	-5.4	1.3	-7.2	793
Air Transportation	-17.7	6.5	-11.2	11.4	-6.3	1768
Total	-546.2	20.2	-526.0	15.3	-519.7	11394

The 10 military-related industries in 1987 accounted for nearly $2.2 billion of military procurement expenditures and nearly 20 percent of their total output in Minnesota. In four of the initial 75 industries, the military purchases accounted for 50 percent or more of each industry's output.

Direct purchases by state and local governments and households are concentrated in the trade, real estate and service sectors, as summarized below:

Industry Group	Purchases by Spending Option 1	2	3	4	5	Industry Output
	--million dollars--					
New Construction	-5.8	108.2	102.4	0.0	-5.8	3555
Wholesale Trade	0.0	29.6	29.6	32.2	32.2	730
Eating and Drinking Places	0.0	16.1	16.1	52.6	52.6	5303
Other Retail	0.0	44.1	44.1	115.1	115.1	9350
Real Estate	-3.7	63.4	59.7	159.9	156.2	16996
Hotels & Lodging	0.0	5.6	5.6	9.0	9.0	1101
Business Services	-0.2	14.2	15.6	35.3	35.0	3876
Hospitals	0.0	66.2	66.2	34.9	34.9	2943
Medical Services	-1.4	107.1	105.7	66.1	64.7	6306
Other Services NEC	0.0	7.0	7.0	20.7	20.7	1750
Total	-11.1	461.5	450.4	525.8	514.7	51907

The projected increases in state and local government and personal spending are slightly larger in absolute terms then the projected 25 percent reduction in military spending because of an initial conversion "dividend" in both state and local and personal consumption expenditures that would be forthcoming from the reduction in military spending. The proportion of total federal outlays to Minnesota state and local governments is higher than its proportion of total US military procurement expenditures. This conversion dividend of $215 million could be, and is likely to be used to rebuild a declining infrastructure and aid in the financing of new educational improvements. A conversion dividend would accrue also from a proportional tax reduction that would exceed the reduction in military spending by $150.8 million. The reduced taxes that result in higher personal consumption expenditures (Option 4).

The net result of the combined military spending reduction and increases in public services and personal spending would be strongly positive in the construction, trade and private services sectors, as shown below:

Industry Group	Purchases by Spending Option 1	2	3	4	5	Industry Output
	--million dollars--					
Manufacturing, Air Transportation	-546.2	20.2	-526.0	15.3	-570.7	11394
Constr., Trade, Real Estate, Private Services	-11.1	461.5	450.4	525.8	514.7	51907
Other Industry	-48.7	339.3	290.6	215.7	206.8	81392
Total	-606.0	821.0	215.0	756.8	150.8	144693

Economic Implications of Alternative Spending Scenarios

The bottom line in estimating the economic effects of any spending option is the total change in employment, labor earnings, value added, and industry output associated with the change in spending. Total change in the four economic indicators associated with each of the six spending options is summarized for a 10-industry breakdown of the 1987 Minnesota economy in Tables 3 through Table 7. The series of five tables are derived from a more complete 75-industry breakdown of each of the five spending options, as presented in Tables 3A to 7A in Appendix A. The corresponding 75-industry coverage of the 10 industry groups is shown in Appendix B.

The direct effect of a proposed expenditure change is simply the initial change in industry output requirements. The indirect effect is the accumulation of expenditures over a period of several years resulting from (1) the backward linkages of producing sectors to local input-supplying industries, (2) the income payments received by the primary input sectors--households, businesses and governments--from the producing sectors, and (3) the final purchases of households, businesses and goverments. The total effect is the sum of the direct effect and the indirect effect.

Reduced military spending

Economic effects of a 25-percent reduction in military procurement in Minnesota--Option 1--start with a proposed $606 million reduction in final purchases of Minnesota industry outputs. The direct expenditure reductions would be concentrated in durable goods manufacturing, as shown in Table 2. Related industry employment would be reduced by 6.8 thousand jobs. Labor earnings and value added levels would be reduced by $240.8 million and $306.4 million, respectively.

Because of strong interindustry linkages originating from the military-dependent durable goods manufacturing industries, the long-term indirect effects of the military expenditures are large, ranging from 3.2 for labor earnings to 4.4 for industry employment. The labor earnings ratio is small because of high earnings per worker in the directly affected industries. Thus, the total economic effects, which would peak in the fifth year, are expected to reduce industry employment by 29.1 thousand, and industry output by nearly $2.3 billion. Gross state product would be reduced by nearly $1.2 billion while overall labor earnings would be reduced by more than $720 million.

Increased state and local government expenditures

Economic affects of an increase in state and local services and transfer payments--Option 2--start with a $821 million increase in final purchases of state and local governments in Minnesota, including transfer payments to individuals. The additional outlays by the fourth year would result in an increase of 38.6 thousand jobs, $878.7 million in labor earnings, over 1.54 billion in value added and over $2.9 billion in total industry output.

The industry distribution of both the direct and indirect effects of Option 2 are concentrated in the services-producing sectors--especially trade and private services. The real estate industry accounts for above-average outlays because of state support of housing and other private construction, including student housing.

Below-average earnings per worker in the services-producing sectors accounts in part for its low multiplier effects. Also, the interindustry linkages are less strong because of the exclusion of public goods production from the interacting sectors. The Option 2 multipliers range from 3.2 for labor earnings to 3.8 for value added.

The net economic effect of the combined 25-percent reduction in military procurement and $761.3 million increase in government outlays is the difference in the values derived from Option 1 and Option 2. The differences are generally positive, except for durable goods manufacturing.

A unique and important result of this analysis is the clear indication of a large job loss following a 25 percent reduction in military procurement in durable goods manufacturing--a sector now experiencing large increases in export market demand. This sector also faces an increasingly tight labor market.

Increased personal consumption expenditures

Economic effects of an increase in personal consumption expenditures--Option 4--start again with a $756.8 million increase in final purchases, including a large allocation for private housing. Again, the increase in direct expenditures is concentrated in the trade, real estate and private services sectors. Large indirect effects also occur in the construction sector because of the initial increase in housing demand.

Option 4 multipliers differ only slightly from the Option 2 multipliers, ranging from 3.0 for employment to 3.5 for labor earnings. Because of generally lower earnings per worker in the trade and private services sectors, the Option 4 multipliers, like the Option 2 multipliers, are smaller than the Option 1 multipliers, as shown below:

Option	Employment	Labor Earnings	Value Added	Gross Output
1	4.4	3.2	4.2	4.0
2	3.0	3.2	3.8	3.7
4	3.0	3.5	3.2	3.4

Economic effects of a reduction in military procurement and an increase in personal consumption expenditures--Option 5--start from an initial difference of $150.8 million in direct final purchases--the conversion dividend. Net negative differences occur more frequently among individual groups in Option 5 than in Option 3. Again, much of negative difference is concentrated in durable goods manufacturing.

In summary, Option 5 provides lower positive differences in industry employment, labor earnings and gross output than Option 3, as shown below.

Option	Employment (1000)	Labor Earnings (mil.$)	Value Added (mil.$)	Gross Output (mil.$)
1	-29.1	-720.8	-1212.5	-2245.8
2	38.6	878.7	1543.5	2912.9
3	9.4	157.9	332.1	667.1
4	37.2	765.4	1456.3	2632.3
5	7.5	19.5	228.2	335.5

However, the value-added difference in Option 5 is larger than in Option 3, which again shows the importance of large indirect effects associated with high levels of interindustry linkage.

Earnings, value added and gross output per worker

Each of the three direct spending options has a unique set of industry output requirements, which, in turn, account for differences in earnings, value added and gross output per worker, as shown in Table 8. The military spending option, because of its concentration in the high-earnings durable goods manufacturing sector, is characterized by high productivity per worker. Also, each of the three indicators is well above industry per worker values. The total spending options, because of the similarity of occupational and earnings distributions among the indirectly affected industries, are much more alike in their average values than is the case with their values in the corresponding direct spending options.

Not included in Table 8 is a corresponding set of long-term productivity per worker estimates. Military spending is concentrated in advanced weaponary for which any return on investment would be difficult to define and estimate. Personal spending is largely, if not entirely, for consumption purposes. It, also, is unlikely to contribute to long-term productivity gains. State and local government spending on infrastructure and education, on the other hand, could have measurable returns to individuals and society. Thus, the shift from military to civilian spending in Minnesota could result in an increase, rather than a decrease, in total employment and, also, in total investment.

In summary, the Minnesota economy would benefit from the release of six to seven thousand workers in military-related durable goods manufacturing into an already tight labor market. If a quick and easy transition from military to civilian jobs were to occur, the military procurement reduction would add over \$158 million in labor earnings, up to 9000 new jobs, \$349 million in gross state product, and $667 million billion in industry output. Thus, the conversion dividend would be strongly positive during an upturn of the business cycle like the one now experienced by Minnesota industry. This transition to a civilian economy could be facilitated, of course, through well-targeted job retraining and related programs.

If the reduced military procurement spending were to occur during a downturn of the business cycle, the transition from military to civilian production would become more difficult. Job mobility would be reduced along with total employment in the cyclically-sensitive durable goods manufacturing and other military-support industries. The actual changes in emplyoment due to the reduced military spending would approach the simulated changes in employment and related economic values cited earlier. Thus, the shock of economic conversion would be heightened by the added shock of a business recession.

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Table 1. Direct spending in selected economic conversion scenarios: Minnesota, 1987

	Industry	Reduce Military 1	Increase Pub Serv Total 2	Increase Pub Serv Net 3	Reduce Taxes Total 4	Reduce Taxes Net 5	No Change Spending 6	Pub Serv Adjusted 7
		(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1	Agr., for.	0.0	3.6	3.6	3.0	3.0	2.6	2.6
2	Mining	-0.3	5.9	5.6	0.0	-0.3	4.1	4.4
3	Constructi	-8.8	121.3	112.5	0.0	-8.8	80.8	89.5
4	Mnfg., Non	-15.2	91.5	76.3	62.8	47.6	52.4	67.5
5	Mnfg., Dur	-541.0	98.9	-442.1	11.6	-529.3	-468.0	73.0
6	TranCommPu	-22.4	50.9	28.5	56.7	34.3	15.1	37.6
7	Trade	0.0	89.9	89.9	199.8	199.8	66.3	66.3
8	FinInsReal	-3.7	85.3	81.5	217.1	213.3	59.2	63.0
9	Private Se	-14.6	267.4	252.8	197.2	182.6	182.8	197.4
10	Government	0.0	6.4	6.4	8.6	8.6	4.7	4.7
	Total	-606.0	821.0	215.0	756.8	150.8	-0.0	606.0

Table 2. Total state and local government and household purchases of specified industry output: Minnesota, 1987

	Industry	Education	Goods and Services: Health, wel, san	Goods and Services: Public Safety	Other	New Construction,Oth	State & Local Total	Personal Consumption Exp	Alternative 2 Total
		(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1	Agr., for.	0.4	0.7	0.0	0.0	0.8	1.9	1.0	2.9
2	Mining	0.1	0.1	0.0	0.0	4.2	4.3	0.0	4.3
3	Constructi	4.7	4.1	0.0	0.4	79.3	88.6	0.0	88.6
4	Mnfg., Non	3.8	9.4	0.1	0.2	56.0	69.4	3.1	72.5
5	Mnfg., Dur	8.0	25.6	0.2	0.2	17.7	51.7	16.3	68.0
6	TranCommPu	6.2	9.1	0.0	0.2	8.0	23.5	14.6	38.1
7	Trade	-1.6	9.8	0.0	0.1	9.3	17.5	50.6	68.1
8	FinInsReal	0.7	6.8	0.0	0.3	2.2	10.0	50.8	60.8
9	Private Se	1.7	115.3	0.0	0.2	30.6	147.8	44.0	191.8
10	Government	84.5	135.4	2.2	1.5	0.2	223.9	2.0	225.8
	Total	108.5	316.2	2.7	3.0	208.3	638.7	182.3	821.0
	Govt indus	84.2	133.5	2.2	1.4	0.0	221.3	0.0	221.3

Table 3. Economic effects of a 25 percent reduction in military procurement: Minnesota

	Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
		(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1	Agr., for.	0	-179	-179	0.0	-1.5	-1.5	0.0	-8.3	-8.3	0.0	-30.6	-30.6
2	Mining	-4	-6	-11	-0.1	-0.2	-0.3	-0.2	-0.4	-0.5	-0.3	-0.6	-0.9
3	Constructi	-76	-1138	-1214	-3.0	-46.4	-49.4	-3.5	-54.0	-57.5	-8.8	-143.2	-152.0
4	Mnfg., Non	-81	-739	-820	-1.9	-20.7	-22.6	-3.3	-33.9	-37.2	-15.2	-133.7	-148.9
5	Mnfg., Dur	-6259	-1192	-7451	-224.3	-47.8	-272.1	-278.0	-76.8	-354.8	-541.0	-174.6	-715.6
6	TranCommPu	-160	-1173	-1333	-5.3	-38.3	-43.7	-8.3	-75.0	-83.2	-22.4	-153.8	-176.2
7	Trade	0	-7923	-7923	0.0	-117.8	-117.8	0.0	-199.5	-199.5	0.0	-317.4	-317.4
8	FinInsReal	-6	-1898	-1904	-0.1	-47.6	-47.6	-3.0	-235.2	-238.2	-3.7	-329.2	-332.9
9	Private Se	-250	-6703	-6954	-6.1	-124.3	-130.4	-10.1	-184.8	-194.9	-14.6	-312.1	-326.7
10	Government	0	-1342	-1342	0.0	-35.5	-35.5	0.0	-37.3	-37.3	0.0	-44.6	-44.6
11	Total	-6837	-22293	-29131	-240.8	-480.1	-720.8	-306.4	-905.1	-1211.5	-606.0	-1639.8	-2245.8

Table 4. Economic effects of a tax-adjusted increase in state and local government services: Minnesota

	Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
		(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1	Agr., for.	58	245	303	0.7	2.0	2.7	1.6	11.1	12.7	3.6	41.1	44.6
2	Mining	62	18	80	1.8	0.6	2.4	3.3	1.1	4.4	5.9	1.8	7.7
3	Constructi	910	2130	3040	38.1	88.2	126.3	44.5	102.9	147.4	121.3	277.7	399.0
4	Mnfg., Non	461	895	1355	12.2	25.4	37.6	20.9	41.7	62.6	91.5	165.1	256.6
5	Mnfg., Dur	1018	2201	3219	29.2	70.8	100.0	39.6	95.7	135.3	98.9	218.6	317.4
6	TranCommPu	460	1491	1951	13.7	48.3	62.0	26.1	94.4	120.5	50.9	195.4	246.3
7	Trade	2366	9474	11840	35.0	143.5	178.5	58.3	243.3	301.6	89.9	383.4	473.3
8	FinInsReal	417	2319	2736	9.8	57.9	67.7	63.4	275.8	339.2	85.3	388.9	474.2
9	Private Se	4817	7684	12500	113.6	147.3	261.0	153.7	223.1	376.8	267.4	372.9	640.3
10	Government	81	1450	1531	2.2	38.5	40.7	2.5	40.6	43.0	6.4	47.0	53.4
11	Total	10648	27906	38555	256.3	622.5	878.7	413.8	1129.7	1543.5	821.0	2091.9	2912.9

Table 5. Economic effects of combined military spending reductions and state local government increases: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Agr., for.	58	67	125	0.7	0.5	1.3	1.6	2.9	4.5	3.6	10.5	14.0
2 Mining	57	12	69	1.7	0.4	2.1	3.1	0.8	3.9	5.6	1.1	6.8
3 Constructi	835	992	1826	35.1	41.8	76.9	41.0	48.9	89.8	112.5	134.5	247.0
4 Mnfg., Non	379	156	535	10.3	4.7	15.0	17.6	7.8	25.4	76.3	31.4	107.7
5 Mnfg., Dur	-5242	1009	-4233	-195.1	23.0	-172.1	-238.4	18.9	-219.5	-442.1	44.0	-398.1
6 TranCommPu	300	318	618	8.3	10.0	18.3	17.8	19.5	37.3	28.5	41.6	70.1
7 Trade	2366	1551	3917	35.0	25.6	60.7	58.3	43.7	102.0	89.9	66.0	155.9
8 FinInsReal	411	421	831	9.7	10.3	20.0	60.4	40.6	101.0	81.5	59.7	141.3
9 Private Se	4566	980	5547	107.5	23.0	130.6	143.6	38.3	181.9	252.8	60.9	313.6
10 Government	81	108	189	2.2	3.0	5.2	2.5	3.3	5.7	6.4	2.4	8.7
11 Total	3811	5613	9424	15.5	142.4	157.9	107.4	224.7	332.1	215.0	452.1	667.1

Table 6. Economic effects of a tax-adjusted increase in personal consumption expenditures: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Agr., for.	19	279	298	0.2	2.3	2.4	0.7	12.6	13.4	3.0	47.3	50.3
2 Mining	0	11	11	0.0	0.3	0.3	0.0	0.6	0.6	0.0	1.0	1.0
3 Constructi	0	2025	2025	0.0	83.7	83.7	0.0	97.6	97.6	0.0	262.6	262.6
4 Mnfg., Non	346	819	1165	8.5	22.9	31.4	13.8	37.4	51.2	62.8	149.4	212.2
5 Mnfg., Dur	116	1914	2030	3.2	60.6	63.9	4.5	81.6	86.1	11.6	185.2	196.9
6 TranCommPu	438	1318	1756	13.9	43.3	57.2	27.9	85.6	113.4	56.7	173.7	230.4
7 Trade	5784	7990	13774	76.6	121.2	197.9	126.2	207.4	333.6	199.8	327.2	527.0
8 FinInsReal	1083	2205	3289	25.5	55.5	81.0	161.2	254.1	415.3	217.1	361.4	578.4
9 Private Se	4592	6866	11458	81.5	127.9	209.4	110.5	193.9	304.4	197.2	323.8	521.0
10 Government	159	1281	1440	4.1	34.2	38.2	4.6	36.1	40.7	8.6	43.9	52.5
11 Total	12537	24708	37245	213.5	551.9	765.4	449.4	1006.8	1456.3	756.8	1875.5	2632.3

Table 7. Economic effects of combined military spending reductions and personal expenditure increases: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Agr., for.	19	100	119	0.2	0.8	1.0	0.7	4.4	5.1	3.0	16.7	19.7
2 Mining	-4	4	-0	-0.1	0.1	0.0	-0.2	0.2	0.0	-0.3	0.4	0.1
3 Constructi	-76	887	812	-3.0	37.3	34.3	-3.5	43.6	40.1	-8.8	119.4	110.7
4 Mnfg., Non	265	80	345	6.5	2.2	8.7	10.5	3.5	14.0	47.6	15.7	63.3
5 Mnfg., Dur	-6143	722	-5422	-221.0	12.8	-208.2	-273.5	4.8	-268.7	-529.3	10.6	-518.7
6 TranCommPu	278	145	423	8.6	5.0	13.6	19.6	10.6	30.2	34.3	19.9	54.1
7 Trade	5784	67	5851	76.6	3.4	80.0	126.2	7.8	134.1	199.8	9.8	209.7
8 FinInsReal	1077	307	1384	25.5	7.9	33.4	158.1	19.0	177.1	213.3	32.2	245.5
9 Private Se	4341	162	4504	75.5	3.5	79.0	100.4	9.1	109.5	182.6	11.7	194.3
10 Government	159	-61	98	4.1	-1.3	2.7	4.6	-1.2	3.4	8.6	-0.8	7.8
11 Total	5699	2415	8114	-27.3	71.8	44.6	143.0	101.8	244.8	150.8	235.6	386.4

Table 8. Earnings, value added and industry output per worker, by spending option, Minnesota: 1987-1992

Average per worker	All industry	Military Spending Direct	Military Spending Total	Domestic Spending Direct	Domestic Spending Total	Tax Cut Direct	Tax Cut Total
	(thou.$)	(thou.$)	(thou.$)	(thou.$)	(thou.$)	(thou.$)	
(thou.$)							
Earnings:							
All industry	21.5	35.2	24.7	24.1	22.8	17.0	20.6
Mnfg., durables	29.3	35.8	36.5	28.7	31.1	27.6	31.5
Value Added:							
All Industry	36.9	44.8	41.6	38.9	40.0	35.8	39.1
Mnfg., durables	38.4	44.4	47.6	38.9	42.0	38.8	42.4
Gross Output:							
All Industry	67.9	88.6	77.0	77.1	75.6	60.4	70.7
Mnfg., durables	89.6	86.4	96.0	97.2	98.6	100.0	97.0

APPENDIX A: Direct, Indirect (and Induced) and Total Economic Effects of Five Spending Options: Minnesota

Table 1A. Direct spending in selected economic conversion scenarios: Minnesota, 1987

Industry	Reduce Military 1	Increase Pub Serv Total 2	Increase Pub Serv Net 3	Reduce Taxes Total 4	Reduce Taxes Net 5	No Change Spending 6	Pub Serv Adjusted 7
	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	0.0	0.9	0.9	2.1	2.1	0.7	0.7
2 Food&Feed	0.0	0.8	0.8	0.8	0.8	0.6	0.6
3 Ag S Fr Fs	0.0	1.9	1.9	0.1	0.1	1.4	1.4
4 Iron Ore M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	-0.3	0.0	-0.3	0.0	-0.3	-0.3	0.0
6 Coal Mine	0.0	0.2	0.2	0.0	0.0	0.1	0.1
7 Petr&Nt Gs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,G	0.0	5.7	5.7	0.0	0.0	4.2	4.2
9 Chm Fer Mn	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 New Constr	-5.8	108.2	102.4	0.0	-5.8	74.1	79.9
11 Maint&Repr	-3.0	13.1	10.1	0.0	-3.0	6.7	9.7
12 Ordnance	-170.9	0.0	-170.8	0.0	-170.8	-170.8	0.0
13 Meat Prods	-3.3	6.8	3.5	13.0	9.7	1.7	5.0
14 Dairy Prod	-1.6	4.3	2.8	6.8	5.2	1.6	3.2
15 Grain Mill	-3.7	0.7	-3.0	1.5	-2.2	-3.2	0.5
16 Food NEC	-3.4	10.4	7.0	19.3	15.9	4.2	7.7
17 Textiles	-0.0	0.6	0.6	0.1	0.0	0.4	0.5
18 Apparel& R	-0.8	2.6	1.7	3.1	2.2	1.1	1.9
19 Logging	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 Other Wood	0.0	5.2	5.2	0.2	0.2	3.9	3.9
21 Furn & Fix	-0.5	2.1	1.6	1.3	0.8	1.0	1.5
22 Paper&Alld	-1.1	3.1	2.0	0.3	-0.8	1.2	2.3
23 Print&Publ	-0.3	6.6	6.3	4.8	4.5	4.6	4.9
24 Chem&Allid	-0.3	21.6	21.3	5.2	5.0	15.7	15.9
25 Petrl Refn	-0.6	30.7	30.1	7.7	7.1	22.0	22.6
26 Rubber&Pls	-0.0	3.7	3.7	0.1	0.1	2.7	2.7
27 Leather Pr	0.0	0.3	0.3	0.9	0.9	0.3	0.3
28 Glass,Ston	-0.1	25.2	25.1	0.3	0.3	18.5	18.6
29 Ferr Metal	-0.0	6.9	6.9	0.0	-0.0	5.1	5.1
30 Prm Met NE	0.0	2.2	2.2	0.0	0.0	1.6	1.6
31 Fab Met NE	-2.5	29.7	27.2	0.5	-2.0	19.5	21.9
32 Computers	-90.5	0.3	-90.2	0.1	-90.4	-90.3	0.2
33 Oth Ofc Eq	-0.3	0.5	0.2	0.1	-0.2	0.1	0.4
34 Con Min Eq	-0.5	0.6	0.0	0.0	-0.5	-0.1	0.4
35 NonElc NEC	-16.5	3.4	-13.2	0.7	-15.9	-14.1	2.5
36 Elc Ind Ap	-38.4	0.9	-37.5	0.0	-38.4	-37.8	0.7
37 House Appl	0.0	0.6	0.6	0.3	0.3	0.4	0.4
38 Comm Equip	-55.4	1.7	-53.7	0.2	-55.2	-54.2	1.3
39 Elc Cmp NE	-2.1	0.1	-1.9	0.3	-1.8	-2.0	0.1
40 Misc Elc E	-3.2	5.3	2.1	2.1	-1.1	0.7	3.9
41 Motor Vehc	-2.8	3.0	0.1	2.0	-0.8	-0.6	2.2
42 Oth Tran E	-45.2	0.3	-44.9	0.8	-44.4	-45.0	0.2
43 Prof&Scn I	-64.9	0.9	-64.0	0.1	-64.9	-64.3	0.7
44 Med Instrm	-0.3	3.6	3.4	0.6	0.3	2.4	2.7
45 Misc Instr	-38.2	3.1	-35.1	0.7	-37.5	-35.9	2.3
46 Misc Manuf	-8.5	3.1	-5.4	1.3	-7.2	-6.2	2.3
47 Railrd Trn	0.0	2.0	2.0	1.5	1.5	1.5	1.5
48 Lcl Transp	0.0	3.8	3.8	2.4	2.4	2.8	2.8
49 Trck Wareh	0.0	9.8	9.8	3.4	3.4	7.3	7.3
50 Wtr & Pipe	0.0	1.6	1.6	1.3	1.3	1.2	1.2
51 Air Transp	-17.7	6.5	-11.2	11.4	-6.3	-12.9	4.8
52 Trans Serv	-0.0	0.1	0.1	0.2	0.2	0.1	0.1
53 Comm Servi	-1.6	7.5	5.9	12.7	11.1	3.9	5.5
54 Elec Utily	-3.1	13.0	9.9	13.7	10.6	6.5	9.6
55 Gas Utilit	-0.0	6.0	6.0	9.0	9.0	4.4	4.4
56 Watr & San	0.0	0.6	0.6	1.0	1.0	0.5	0.5
57 Whlsl Trad	0.0	29.6	29.6	32.2	32.2	21.9	21.9
58 Eat&Drink	0.0	16.1	16.1	52.6	52.6	11.9	11.9
59 Oth Retail	0.0	44.1	44.1	115.1	115.1	32.6	32.6
60 Bnk & Crdt	0.0	12.2	12.2	32.9	32.9	9.0	9.0
61 Insurance	0.0	9.7	9.7	24.3	24.3	7.1	7.1
62 Real Estat	-3.7	63.4	59.7	159.9	156.2	43.1	46.8
63 Htls Lodgn	0.0	5.6	5.6	9.0	9.0	4.1	4.1
64 Per & Repr	-0.2	15.8	15.6	35.3	35.0	11.4	11.7
65 Bus Servic	-10.2	14.2	4.0	2.2	-8.0	0.3	10.5
66 Prof Servc	-2.3	46.3	43.9	11.2	8.9	31.8	34.2
67 Movies&Amu	0.0	2.5	2.5	7.2	7.2	1.9	1.9
68 Hospitals	0.0	66.2	66.2	34.9	34.9	48.9	48.9
69 Medical NE	-1.4	107.1	105.7	66.1	64.7	77.7	79.1
70 Educ Servc	-0.4	2.6	2.2	10.7	10.3	1.5	1.9
71 Oth Ser NE	0.0	7.0	7.0	20.7	20.7	5.2	5.2
72 Fed Gov En	0.0	1.8	1.8	2.5	2.5	1.3	1.3
73 S&L Gov En	0.0	2.2	2.2	6.1	6.1	1.6	1.6
74 Scrap,Seco	0.0	2.3	2.3	0.0	0.0	1.7	1.7
75 Gov Indust	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	-606.0	821.0	215.0	756.8	150.8	-0.0	606.0

Table 2A. Total state and local government and household purchases of specified industry output: Minnesota, 1987

Industry	Goods and Services Education	Health, wel, san	Public Safety	Other	New Construction, Oth	State & Local Total	Personal Consumption Exp	Alternative 2 Total
	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	0.0	0.1	0.0	0.0	0.0	0.1	0.6	0.8
2 Food&Feed	0.2	0.2	0.0	0.0	0.0	0.4	0.4	0.8
3 Ag S Fr Fs	0.2	0.4	0.0	0.0	0.8	1.3	0.0	1.4
4 Iron Ore M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 Coal Mine	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1
7 Petr&Nt Gs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,G	0.0	0.0	0.0	-0.0	4.2	4.2	0.0	4.2
9 Chm Fer Mn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 New Constr	0.0	0.0	0.0	0.0	79.0	79.0	0.0	79.0
11 Maint&Repr	4.7	4.1	0.0	0.4	0.2	9.6	0.0	9.6
12 Ordnance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 Meat Prods	0.6	1.3	0.0	0.0	0.0	1.9	3.2	5.1
14 Dairy Prod	0.8	0.7	0.0	0.0	0.0	1.5	1.6	3.2
15 Grain Mill	0.0	0.1	0.0	0.0	0.0	0.1	0.5	0.6
16 Food NEC	0.8	2.1	0.0	-0.0	0.0	2.9	4.0	6.9
17 Textiles	0.0	0.2	0.0	0.0	0.2	0.4	0.0	0.5
18 Apparel& R	0.0	1.0	0.0	0.0	0.1	1.2	0.7	1.9
19 Logging	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 Other Wood	0.1	0.0	0.0	0.0	3.7	3.8	0.1	3.8
21 Furn & Fix	0.5	0.3	0.0	0.0	0.4	1.2	0.3	1.5
22 Paper&Alld	0.6	1.3	0.0	0.0	0.2	2.2	0.1	2.3
23 Print&Publ	2.3	1.3	0.0	0.1	0.0	3.7	1.1	4.8
24 Chem&Allid	0.7	12.2	0.0	0.0	1.6	14.5	1.4	15.9
25 Petrl Refn	1.9	3.5	0.1	0.1	14.9	20.5	3.4	23.9
26 Rubber&Pls	0.1	1.8	0.0	0.0	0.7	2.7	0.0	2.7
27 Leather Pr	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
28 Glass,Ston	0.1	1.3	0.0	0.0	16.9	18.3	0.1	18.4
29 Ferr Metal	0.0	0.0	0.0	0.0	5.0	5.1	0.0	5.1
30 Prm Met NE	0.0	0.1	0.0	0.0	1.5	1.6	0.0	1.6
31 Fab Met NE	0.3	0.1	0.0	0.0	21.2	21.6	0.1	21.7
32 Computers	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.3
33 Oth Ofc Eq	0.2	0.2	0.0	0.0	0.0	0.3	0.0	0.4
34 Con Min Eq	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.4
35 NonElc NEC	0.3	0.4	0.0	0.0	1.6	2.3	0.2	2.5
36 Elc Ind Ap	0.1	0.0	0.0	0.0	0.6	0.7	0.0	0.7
37 House Appl	0.0	0.1	0.0	0.0	0.1	0.3	0.1	0.4
38 Comm Equip	0.1	0.0	0.0	0.0	1.1	1.2	0.1	1.3
39 Elc Cmp NE	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
40 Misc Elc E	0.2	0.7	0.0	0.0	2.5	3.4	0.6	4.0
41 Motor Vehc	0.7	0.7	0.0	0.1	0.2	1.7	0.6	2.3
42 Oth Tran E	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3
43 Prof&Scn I	0.0	0.4	0.0	0.0	0.2	0.7	0.0	0.7
44 Med Instrm	0.0	2.4	0.0	0.0	0.1	2.5	0.1	2.6
45 Misc Instr	0.4	1.7	0.0	0.0	0.0	2.1	0.2	2.3
46 Misc Manuf	0.6	0.5	0.0	0.0	0.9	2.0	0.4	2.3
47 Railrd Trn	0.1	0.2	0.0	0.0	0.8	1.1	0.5	1.6
48 Lcl Transp	1.5	0.6	0.0	0.0	0.1	2.2	0.5	2.7
49 Trck Wareh	0.5	0.7	0.0	0.0	5.1	6.4	1.0	7.3
50 Wtr & Pipe	0.1	0.3	0.0	0.0	0.5	0.8	0.3	1.1
51 Air Transp	0.4	1.3	0.0	0.0	0.3	2.0	3.5	5.5
52 Trans Serv	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
53 Comm Servi	0.9	0.7	0.0	0.0	0.7	2.4	2.6	5.0
54 Elec Utily	1.6	4.1	0.0	0.1	0.4	6.2	3.5	9.7
55 Gas Utilit	0.7	1.3	0.0	0.0	0.2	2.2	2.5	4.7
56 Watr & San	0.3	-0.2	0.0	0.0	0.1	0.2	0.2	0.4
57 Whlsl Trad	1.5	5.5	0.0	0.0	6.8	13.9	9.2	23.1
58 Eat&Drink	-3.0	2.0	0.0	0.0	0.1	-0.9	12.9	12.0
59 Oth Retail	-0.1	2.3	0.0	0.0	2.3	4.5	28.5	33.1
60 Bnk & Crdt	0.0	0.0	0.0	0.2	0.8	1.0	8.4	9.4
61 Insurance	0.2	0.1	0.0	0.0	0.9	1.2	5.8	7.0
62 Real Estat	0.5	6.7	0.0	0.1	0.5	7.8	36.6	44.4
63 Htls Lodgn	-0.5	2.2	0.0	0.0	0.2	1.9	2.4	4.4
64 Per & Repr	0.4	0.7	0.0	0.0	1.9	3.1	8.2	11.3
65 Bus Servic	1.7	4.4	-0.0	0.1	3.7	9.8	0.5	10.3
66 Prof Servc	0.8	5.4	0.0	0.1	24.8	31.1	2.5	33.6
67 Movies&Amu	0.1	0.0	0.0	0.0	0.0	0.1	1.8	1.9
68 Hospitals	0.1	39.9	0.0	0.0	0.0	40.0	7.4	47.4
69 Medical NE	0.0	62.3	0.0	0.0	0.0	62.3	13.0	75.3
70 Educ Servc	-0.9	0.2	0.0	-0.0	0.0	-0.7	2.7	2.1
71 Oth Ser NE	0.1	0.0	0.0	-0.0	0.0	0.1	5.5	5.6
72 Fed Gov En	0.1	0.5	0.0	0.0	0.1	0.7	0.7	1.4
73 S&L Gov En	0.0	0.0	0.0	0.0	0.1	0.2	1.3	1.5
74 Scrap,Seco	0.2	1.4	0.0	0.0	0.0	1.7	0.0	1.7
75 Gov Indust	84.2	133.5	2.2	1.4	0.0	221.3	0.0	221.3
Total	108.5	316.2	2.7	3.0	208.3	638.7	182.3	821.0

Table 3A. Economic effects of a 25 percent reduction in military procurement: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	0	-95	-95	0.0	-0.8	-0.8	0.0	-3.0	-3.0	0.0	-19.1	-19.1
2 Food&Feed	0	-64	-64	0.0	-0.4	-0.4	0.0	-4.8	-4.8	0.0	-10.7	-10.7
3 Ag S Fr Fs	0	-20	-20	0.0	-0.3	-0.3	0.0	-0.5	-0.5	0.0	-0.8	-0.8
4 Iron Ore M	0	-0	-0	0.0	-0.0	-0.0	0.0	-0.0	-0.0	0.0	-0.0	-0.0
5 Oth Metal	-4	0	-4	-0.1	-0.0	-0.1	-0.2	-0.0	-0.2	-0.3	-0.0	-0.3
6 Coal Mine	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 Petr&Nt Gs	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,G	0	-6	-6	0.0	-0.2	-0.2	0.0	-0.4	-0.4	0.0	-0.6	-0.6
9 Chm Fer Mn	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 New Constr	-40	-802	-842	-1.7	-34.6	-36.3	-2.0	-40.6	-42.6	-5.8	-114.8	-120.5
11 Maint&Repr	-35	-336	-371	-1.2	-11.8	-13.1	-1.4	-13.5	-14.9	-3.0	-28.4	-31.4
12 Ordnance	-1998	174	-1824	-81.7	7.1	-74.6	-93.3	-0.2	-93.5	-170.9	-0.4	-171.3
13 Meat Prods	-14	-71	-85	-0.3	-1.8	-2.2	-0.4	-2.2	-2.6	-3.3	-18.0	-21.3
14 Dairy Prod	-5	-33	-39	-0.1	-0.8	-0.9	-0.2	-1.5	-1.7	-1.6	-10.7	-12.3
15 Grain Mill	-16	-13	-30	-0.4	-0.4	-0.7	-0.9	-0.9	-1.8	-3.7	-3.7	-7.5
16 Food NEC	-17	-114	-131	-0.5	-3.4	-3.9	-0.8	-6.2	-7.0	-3.4	-25.4	-28.8
17 Textiles	-0	-2	-3	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.0	-0.2	-0.2
18 Apparel& R	-14	-53	-68	-0.2	-0.9	-1.1	-0.3	-1.2	-1.5	-0.8	-3.5	-4.4
19 Logging	0	-2	-2	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.4	-0.4
20 Other Wood	0	-81	-81	0.0	-1.4	-1.4	0.0	-1.9	-1.9	0.0	-6.4	-6.4
21 Furn & Fix	-7	-21	-27	-0.1	-0.5	-0.6	-0.2	-0.7	-0.9	-0.5	-1.7	-2.2
22 Paper&Alld	-8	-48	-56	-0.2	-1.7	-1.9	-0.4	-2.5	-2.8	-1.1	-7.4	-8.5
23 Print&Publ	-4	-282	-286	-0.1	-8.1	-8.2	-0.1	-12.0	-12.1	-0.3	-28.1	-28.4
24 Chem&Allid	-2	-69	-71	-0.0	-2.3	-2.3	-0.1	-4.3	-4.3	-0.3	-13.2	-13.5
25 Petrl Refn	-1	-29	-30	-0.0	-1.0	-1.0	-0.1	-2.4	-2.4	-0.6	-21.7	-22.3
26 Rubber&Pls	-0	-6	-6	-0.0	-0.2	-0.2	-0.0	-0.2	-0.2	-0.0	-0.6	-0.6
27 Leather Pr	0	-17	-17	0.0	-0.3	-0.3	0.0	-0.5	-0.5	0.0	-1.1	-1.1
28 Glass,Ston	-0	-22	-23	-0.0	-0.9	-0.9	-0.0	-1.1	-1.2	-0.1	-2.9	-3.0
29 Ferr Metal	-0	-10	-10	-0.0	-0.3	-0.3	-0.0	-0.4	-0.4	-0.0	-0.9	-0.9
30 Prm Met NE	0	-21	-21	0.0	-0.7	-0.7	0.0	-0.8	-0.8	0.0	-1.9	-1.9
31 Fab Met NE	-27	-116	-143	-0.7	-3.4	-4.1	-1.0	-5.0	-6.0	-2.5	-12.2	-14.7
32 Computers	-723	-174	-898	-39.3	-13.6	-52.8	-48.8	-18.1	-66.9	-90.5	-33.5	-124.0
33 Oth Ofc Eq	-4	-2	-6	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.3	-0.2	-0.5
34 Con Min Eq	-7	-3	-10	-0.1	-0.1	-0.2	-0.2	-0.1	-0.3	-0.5	-0.4	-0.9
35 NonElc NEC	-185	-405	-590	-5.1	-12.5	-17.7	-6.8	-16.9	-23.6	-16.5	-41.1	-57.7
36 Elc Ind Ap	-440	-98	-538	-12.7	-4.1	-16.8	-16.8	-5.9	-22.6	-38.4	-13.4	-51.8
37 House Appl	0	-13	-13	0.0	-0.3	-0.3	0.0	-0.4	-0.4	0.0	-1.2	-1.2
38 Comm Equip	-764	30	-734	-25.3	-0.6	-25.9	-27.8	-1.1	-28.9	-55.4	-2.2	-57.7
39 Elc Cmp NE	-30	-211	-241	-0.7	-5.0	-5.7	-0.8	-6.0	-6.8	-2.1	-16.1	-18.2
40 Misc Elc E	-31	-65	-96	-0.9	-2.1	-2.9	-1.1	-2.7	-3.9	-3.2	-7.9	-11.1
41 Motor Vehc	-17	-15	-32	-0.6	-0.6	-1.2	-0.8	-0.8	-1.6	-2.8	-3.1	-6.0
42 Oth Tran E	-380	17	-363	-15.2	-0.7	-15.9	-20.9	-0.9	-21.8	-45.2	-2.0	-47.2
43 Prof&Scn I	-1172	-44	-1216	-27.6	-3.2	-30.8	-35.4	-5.2	-40.6	-64.9	-9.5	-74.4
44 Med Instrm	-2	-85	-88	-0.1	-3.2	-3.3	-0.1	-5.0	-5.1	-0.3	-9.7	-10.0
45 Misc Instr	-381	11	-370	-11.9	-0.5	-12.5	-20.4	-1.5	-21.8	-38.2	-2.7	-40.9
46 Misc Manuf	-91	-36	-127	-2.2	-1.1	-3.3	-3.5	-1.9	-5.4	-8.5	-4.6	-13.1
47 Railrd Trn	0	-80	-80	0.0	-2.8	-2.8	0.0	-3.5	-3.5	0.0	-6.5	-6.5
48 Lcl Transp	0	-103	-103	0.0	-2.8	-2.8	0.0	-3.9	-3.9	0.0	-5.5	-5.5
49 Trck Wareh	0	-245	-245	0.0	-6.5	-6.5	0.0	-10.2	-10.2	0.0	-17.1	-17.1
50 Wtr & Pipe	0	-13	-13	0.0	-0.7	-0.7	0.0	-1.8	-1.8	0.0	-5.0	-5.0
51 Air Transp	-129	-161	-290	-4.3	-6.2	-10.5	-5.5	-7.9	-13.5	-17.7	-25.4	-43.1
52 Trans Serv	-0	-60	-60	-0.0	-0.9	-0.9	-0.0	-1.3	-1.3	-0.0	-2.4	-2.4
53 Comm Servi	-17	-293	-309	-0.6	-12.1	-12.8	-1.3	-24.6	-25.9	-1.6	-31.2	-32.8
54 Elec Utily	-14	-118	-132	-0.4	-3.8	-4.2	-1.5	-14.0	-15.5	-3.1	-29.1	-32.1
55 Gas Utilit	-0	-78	-78	-0.0	-2.0	-2.0	-0.0	-6.4	-6.4	-0.0	-29.4	-29.4
56 Watr & San	0	-23	-23	0.0	-0.6	-0.6	0.0	-1.3	-1.3	0.0	-2.2	-2.2
57 Whlsl Trad	0	-1596	-1596	0.0	-41.8	-41.8	0.0	-72.0	-72.0	0.0	-108.2	-108.2
58 Eat&Drink	0	-2319	-2319	0.0	-21.7	-21.7	0.0	-30.9	-30.9	0.0	-75.9	-75.9
59 Oth Retail	0	-4008	-4008	0.0	-54.3	-54.3	0.0	-96.6	-96.6	0.0	-133.3	-133.3
60 Bnk & Crdt	0	-895	-895	0.0	-25.9	-25.9	0.0	-36.4	-36.4	0.0	-57.5	-57.5
61 Insurance	0	-659	-659	0.0	-18.8	-18.8	0.0	-24.2	-24.2	0.0	-57.0	-57.0
62 Real Estat	-6	-344	-350	-0.1	-2.9	-2.9	-3.0	-174.6	-177.6	-3.7	-214.7	-218.4
63 Htls Lodgn	0	-634	-634	0.0	-5.3	-5.3	0.0	-6.9	-6.9	0.0	-16.0	-16.0
64 Per & Repr	-3	-593	-596	-0.1	-15.1	-15.1	-0.1	-28.8	-29.0	-0.2	-53.7	-53.9
65 Bus Servic	-179	-938	-1118	-4.2	-22.2	-26.4	-7.3	-38.5	-45.8	-10.2	-53.8	-64.0
66 Prof Servc	-26	-437	-462	-1.0	-16.4	-17.3	-1.6	-27.1	-28.6	-2.3	-40.4	-42.8
67 Movies&Amu	0	-336	-336	0.0	-3.6	-3.6	0.0	-5.8	-5.8	0.0	-11.7	-11.7
68 Hospitals	0	-747	-747	0.0	-15.7	-15.7	0.0	-16.9	-16.9	0.0	-33.3	-33.3
69 Medical NE	-19	-919	-938	-0.6	-28.3	-28.8	-0.8	-38.6	-39.4	-1.4	-68.2	-69.6
70 Educ Servc	-24	-644	-668	-0.2	-6.2	-6.4	-0.3	-7.6	-7.9	-0.4	-11.5	-11.9
71 Oth Ser NE	0	-1456	-1456	0.0	-11.6	-11.6	0.0	-14.6	-14.6	0.0	-23.6	-23.6
72 Fed Gov En	0	-214	-214	0.0	-7.3	-7.3	0.0	-8.1	-8.1	0.0	-9.2	-9.2
73 S&L Gov En	0	-157	-157	0.0	-3.4	-3.4	0.0	-4.0	-4.0	0.0	-10.3	-10.3
74 Scrap,Seco	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75 Gov Indust	0	-972	-972	0.0	-24.8	-24.8	0.0	-25.2	-25.2	0.0	-25.2	-25.2
Total	-6837	-22293	-29131	-240.8	-480.1	-720.8	-306.4	-905.1	-1211.5	-606.0	-1639.8	-2245.8

Table 4A. Economic effects of a tax-adjusted increase in state and local government services: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	5	128	133	0.0	1.1	1.2	0.1	4.0	4.2	0.9	25.5	26.4
2 Food&Feed	5	88	93	0.0	0.5	0.5	0.4	6.4	6.7	0.8	14.4	15.2
3 Ag S Fr F	48	30	78	0.6	0.4	1.0	1.1	0.7	1.8	1.9	1.2	3.1
4 Iron Ore	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	0	1	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 Coal Mine	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	0.0
7 Petr&Nt G	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,	62	17	79	1.8	0.6	2.4	3.3	1.1	4.4	5.7	1.9	7.6
9 Chm Fer M	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0
10 New Const	756	1667	2423	32.6	71.9	104.5	38.3	84.4	122.6	108.2	238.5	346.7
11 Maint&Rep	154	463	617	5.4	16.3	21.7	6.2	18.5	24.7	13.1	39.2	52.3
12 Ordnance	0	5	5	0.0	0.2	0.2	0.0	0.3	0.3	0.0	0.5	0.5
13 Meat Prod	29	86	115	0.7	2.2	2.9	0.8	2.7	3.5	6.8	21.5	28.3
14 Dairy Pro	15	41	56	0.3	1.0	1.3	0.6	1.9	2.5	4.3	13.1	17.4
15 Grain Mil	3	19	22	0.1	0.5	0.5	0.2	1.2	1.3	0.7	4.7	5.4
16 Food NEC	51	134	185	1.4	4.0	5.4	2.5	7.2	9.7	10.4	29.6	40.0
17 Textiles	8	3	11	0.1	0.1	0.2	0.2	0.1	0.3	0.6	0.3	0.9
18 Apparel&	44	59	103	0.7	1.0	1.6	0.9	1.3	2.2	2.6	3.9	6.5
19 Logging	0	5	5	0.0	0.1	0.1	0.0	0.2	0.2	0.0	0.8	0.8
20 Other Woo	72	152	224	1.2	2.7	3.9	1.6	3.7	5.2	5.2	12.3	17.5
21 Furn & Fi	28	26	55	0.6	0.6	1.2	0.8	0.9	1.7	2.1	2.2	4.3
22 Paper&All	22	45	67	0.7	1.6	2.3	1.0	2.3	3.3	3.1	7.0	10.1
23 Print&Pub	73	362	435	2.0	10.3	12.3	2.8	15.3	18.1	6.6	35.8	42.5
24 Chem&Alli	125	86	211	3.8	3.1	6.8	6.9	5.8	12.7	21.6	18.0	39.6
25 Petrl Ref	45	36	81	1.4	1.3	2.7	3.4	3.2	6.5	30.7	29.2	59.9
26 Rubber&Pl	39	5	45	1.0	0.2	1.2	1.4	0.3	1.7	3.7	0.8	4.5
27 Leather P	6	18	24	0.1	0.3	0.4	0.2	0.5	0.7	0.3	1.2	1.5
28 Glass,Sto	208	19	227	7.5	1.3	8.7	9.7	1.6	11.3	25.2	4.2	29.4
29 Ferr Meta	84	3	88	2.5	0.3	2.7	2.9	0.4	3.3	6.9	0.9	7.8
30 Prm Met N	25	14	39	0.7	0.5	1.2	0.9	0.6	1.5	2.2	1.4	3.6
31 Fab Met N	316	117	433	8.4	3.9	12.3	12.2	5.8	18.0	29.7	14.2	44.0
32 Computers	3	218	221	0.1	12.6	12.8	0.2	15.9	16.1	0.3	29.5	29.9
33 Oth Ofc E	6	3	8	0.2	0.1	0.3	0.2	0.1	0.4	0.5	0.3	0.8
34 Con Min E	7	6	13	0.1	0.1	0.3	0.2	0.2	0.4	0.6	0.5	1.1
35 NonElc NE	38	626	663	1.0	18.6	19.6	1.4	24.7	26.1	3.4	60.3	63.7
36 Elc Ind A	11	176	186	0.3	5.4	5.7	0.4	7.3	7.7	0.9	16.7	17.6
37 House App	7	22	29	0.1	0.4	0.5	0.2	0.6	0.8	0.6	2.0	2.5
38 Comm Equi	24	26	49	0.8	0.9	1.7	0.9	1.1	1.9	1.7	2.1	3.8
39 Elc Cmp N	2	62	64	0.0	1.5	1.5	0.1	1.7	1.8	0.1	4.6	4.8
40 Misc Elc	51	118	169	1.4	3.7	5.1	1.9	4.8	6.7	5.3	13.9	19.3
41 Motor Veh	18	17	35	0.6	0.7	1.3	0.8	0.9	1.7	3.0	3.5	6.4
42 Oth Tran	3	10	13	0.1	0.4	0.5	0.1	0.6	0.8	0.3	1.3	1.6
43 Prof&Scn	17	328	345	0.4	8.2	8.6	0.5	10.8	11.3	0.9	19.8	20.7
44 Med Instr	35	158	193	1.2	6.0	7.2	1.9	9.2	11.1	3.6	17.9	21.5
45 Misc Inst	31	19	50	1.0	0.7	1.7	1.7	1.2	2.9	3.1	2.3	5.4
46 Misc Manu	33	71	104	0.8	1.8	2.6	1.3	3.0	4.3	3.1	7.4	10.5
47 Railrd Tr	27	121	148	0.9	4.3	5.2	1.1	5.3	6.4	2.0	9.9	11.9
48 Lcl Trans	71	114	185	1.9	3.1	5.0	2.7	4.4	7.0	3.8	6.2	9.9
49 Trck Ware	147	357	505	3.8	9.7	13.5	5.8	15.0	20.9	9.8	25.3	35.2
50 Wtr & Pip	4	22	27	0.2	1.1	1.3	0.6	3.1	3.7	1.6	8.7	10.3
51 Air Trans	48	183	230	1.6	6.6	8.2	2.0	8.5	10.5	6.5	27.2	33.7
52 Trans Ser	3	59	62	0.0	0.8	0.9	0.1	1.3	1.4	0.1	2.3	2.4
53 Comm Serv	78	356	433	2.9	14.7	17.6	5.9	29.7	35.5	7.5	37.6	45.1
54 Elec Util	58	141	199	1.7	4.5	6.2	6.3	16.7	23.0	13.0	34.7	47.7
55 Gas Utili	17	109	125	0.4	2.8	3.2	1.3	8.8	10.1	6.0	40.8	46.8
56 Watr & Sa	7	28	35	0.2	0.7	0.8	0.4	1.6	2.0	0.6	2.7	3.3
57 Whlsl Tra	463	2059	2522	11.6	53.9	65.5	19.7	92.6	112.3	29.6	139.0	168.6
58 Eat&Drink	488	2559	3047	4.6	23.8	28.5	6.5	33.8	40.4	16.1	83.2	99.3
59 Oth Retai	1415	4856	6271	18.8	65.7	84.5	32.0	116.9	148.9	44.1	161.2	205.4
60 Bnk & Crd	202	1048	1250	5.6	30.2	35.9	7.7	42.3	50.1	12.2	67.0	79.2
61 Insurance	113	863	975	3.3	24.3	27.6	4.1	31.1	35.2	9.7	73.1	82.8
62 Real Esta	102	408	511	0.9	3.4	4.2	51.6	202.4	254.0	63.4	248.9	312.3
63 Htls Lodg	223	676	899	1.9	5.7	7.5	2.4	7.4	9.8	5.6	17.0	22.6
64 Per & Rep	175	709	884	4.4	17.8	22.2	8.5	34.0	42.5	15.8	63.4	79.2
65 Bus Servi	250	1241	1491	5.9	29.0	34.9	10.2	50.2	60.3	14.2	70.1	84.3
66 Prof Serv	504	634	1137	18.8	23.8	42.6	31.0	39.3	70.3	46.3	58.6	104.9
67 Movies&Am	77	388	465	0.8	4.2	5.0	1.2	6.6	7.8	2.5	13.4	15.9
68 Hospitals	1625	686	2311	32.3	15.7	48.0	33.6	17.7	51.3	66.2	34.8	101.0
69 Medical N	1437	1035	2472	44.6	32.3	76.9	60.7	44.4	105.1	107.1	78.4	185.5
70 Educ Serv	141	693	835	1.4	6.5	7.9	1.7	8.0	9.8	2.6	12.1	14.7
71 Oth Ser N	385	1622	2007	3.6	12.4	16.0	4.3	15.5	19.9	7.0	25.2	32.1
72 Fed Gov E	46	279	325	1.5	9.5	11.0	1.6	10.5	12.1	1.8	11.9	13.7
73 S&L Gov E	35	184	219	0.7	4.0	4.7	0.9	4.7	5.6	2.2	12.1	14.3
74 Scrap,Sec	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	-2.3	0.0
75 Gov Indus	0	987	987	0.0	25.0	25.0	0.0	25.4	25.4	0.0	25.4	25.4
Total	10648.2	27906.4	38554.6	256.3	622.5	878.7	413.8	1129.7	1543.5	821.0	2091.9	2912.9

Table 5A. Economic effects of combined military spending reductions and state local government increases: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	5	34	38	0.0	0.3	0.3	0.1	1.0	1.2	0.9	6.4	7.3
2 Food&Feed	5	23	29	0.0	0.1	0.2	0.4	1.6	2.0	0.8	3.7	4.5
3 Ag S Fr Fs	48	9	58	0.6	0.1	0.8	1.1	0.2	1.3	1.9	0.4	2.3
4 Iron Ore M	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	-4	1	-4	-0.1	0.0	-0.1	-0.2	0.0	-0.2	-0.3	0.0	-0.3
6 Coal Mine	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	0.0
7 Petr&Nt Gs	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,G	62	11	73	1.8	0.4	2.2	3.3	0.7	4.0	5.7	1.3	7.0
9 Chm Fer Mn	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0
10 New Constr	716	865	1580	30.9	37.3	68.2	36.2	43.8	80.0	102.4	123.8	226.2
11 Maint&Repr	119	127	246	4.2	4.5	8.7	4.8	5.1	9.8	10.1	10.7	20.8
12 Ordnance	-1997	179	-1819	-81.7	7.3	-74.4	-93.3	0.0	-93.2	-170.8	0.1	-170.8
13 Meat Prods	15	15	30	0.4	0.4	0.7	0.4	0.4	0.9	3.5	3.5	7.0
14 Dairy Prod	10	8	17	0.2	0.2	0.4	0.4	0.3	0.7	2.8	2.3	5.1
15 Grain Mill	-13	6	-8	-0.3	0.1	-0.2	-0.7	0.2	-0.5	-3.0	1.0	-2.0
16 Food NEC	35	20	54	1.0	0.6	1.5	1.7	1.0	2.7	7.0	4.2	11.2
17 Textiles	8	1	8	0.1	0.0	0.1	0.2	0.0	0.2	0.6	0.1	0.7
18 Apparel& R	30	5	35	0.4	0.1	0.5	0.6	0.1	0.7	1.7	0.4	2.1
19 Logging	0	3	3	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.4	0.4
20 Other Wood	72	71	143	1.2	1.3	2.5	1.6	1.7	3.3	5.2	5.8	11.1
21 Furn & Fix	22	6	27	0.5	0.1	0.6	0.6	0.2	0.8	1.6	0.5	2.1
22 Paper&Alld	15	-3	12	0.5	-0.1	0.4	0.7	-0.1	0.5	2.0	-0.5	1.6
23 Print&Publ	70	80	149	1.9	2.3	4.2	2.7	3.3	6.0	6.3	7.8	14.1
24 Chem&Allid	123	17	140	3.7	0.8	4.5	6.9	1.5	8.4	21.3	4.7	26.1
25 Petrl Refn	44	7	51	1.4	0.3	1.7	3.3	0.8	4.1	30.1	7.5	37.6
26 Rubber&Pls	39	-1	39	1.0	0.0	1.0	1.4	0.1	1.5	3.7	0.2	3.9
27 Leather Pr	6	2	7	0.1	0.0	0.1	0.2	0.0	0.2	0.3	0.1	0.4
28 Glass,Ston	208	-3	204	7.4	0.4	7.8	9.6	0.5	10.1	25.1	1.3	26.4
29 Ferr Metal	84	-7	78	2.4	-0.0	2.4	2.9	-0.0	2.9	6.9	-0.0	6.9
30 Prm Met NE	25	-7	18	0.7	-0.2	0.6	0.9	-0.2	0.7	2.2	-0.5	1.7
31 Fab Met NE	290	1	291	7.7	0.5	8.2	11.2	0.8	12.0	27.2	2.0	29.2
32 Computers	-721	44	-677	-39.1	-0.9	-40.0	-48.7	-2.1	-50.8	-90.2	-3.9	-94.1
33 Oth Ofc Eq	2	0	3	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.2
34 Con Min Eq	0	2	3	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.2
35 NonElc NEC	-147	221	74	-4.1	6.0	1.9	-5.4	7.9	2.5	-13.2	19.2	6.0
36 Elc Ind Ap	-430	78	-351	-12.4	1.3	-11.1	-16.4	1.4	-14.9	-37.5	3.3	-34.2
37 House Appl	7	9	16	0.1	0.2	0.3	0.2	0.3	0.4	0.6	0.8	1.3
38 Comm Equip	-740	56	-685	-24.5	0.3	-24.2	-26.9	-0.1	-27.0	-53.7	-0.2	-53.9
39 Elc Cmp NE	-28	-148	-177	-0.6	-3.6	-4.2	-0.7	-4.3	-5.0	-1.9	-11.5	-13.4
40 Misc Elc E	20	53	73	0.6	1.6	2.2	0.7	2.1	2.8	2.1	6.0	8.1
41 Motor Vehc	1	2	3	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.5
42 Oth Tran E	-377	27	-350	-15.1	-0.2	-15.3	-20.8	-0.3	-21.1	-44.9	-0.7	-45.6
43 Prof&Scn I	-1155	284	-871	-27.2	5.0	-22.2	-34.9	5.6	-29.3	-64.0	10.3	-53.7
44 Med Instrm	33	73	105	1.1	2.7	3.9	1.7	4.2	5.9	3.4	8.2	11.5
45 Misc Instr	-350	30	-320	-11.0	0.2	-10.8	-18.7	-0.2	-18.9	-35.1	-0.4	-35.5
46 Misc Manuf	-58	34	-23	-1.4	0.8	-0.6	-2.2	1.1	-1.1	-5.4	2.8	-2.6
47 Railrd Trn	27	42	69	0.9	1.5	2.4	1.1	1.8	2.9	2.0	3.4	5.4
48 Lcl Transp	71	11	82	1.9	0.3	2.2	2.7	0.4	3.1	3.8	0.6	4.4
49 Trck Wareh	147	112	260	3.8	3.1	6.9	5.8	4.9	10.7	9.8	8.2	18.1
50 Wtr & Pipe	4	9	14	0.2	0.5	0.7	0.6	1.3	1.9	1.6	3.7	5.3
51 Air Transp	-82	22	-60	-2.7	0.5	-2.3	-3.5	0.6	-2.9	-11.2	1.8	-9.4
52 Trans Serv	3	-1	2	0.0	-0.0	0.0	0.1	-0.0	0.0	0.1	-0.1	0.0
53 Comm Servi	61	63	124	2.3	2.5	4.8	4.6	5.0	9.7	5.9	6.4	12.3
54 Elec Utily	44	23	68	1.3	0.7	2.0	4.8	2.7	7.5	9.9	5.6	15.5
55 Gas Utilit	17	31	48	0.4	0.8	1.2	1.3	2.5	3.8	6.0	11.4	17.4
56 Watr & San	7	5	12	0.2	0.1	0.3	0.4	0.3	0.7	0.6	0.4	1.1
57 Whlsl Trad	463	463	926	11.6	12.1	23.7	19.7	20.5	40.3	29.6	30.8	60.5
58 Eat&Drink	488	240	727	4.6	2.1	6.7	6.5	3.0	9.5	16.1	7.3	23.4
59 Oth Retail	1415	848	2263	18.8	11.5	30.3	32.0	20.3	52.3	44.1	27.9	72.1
60 Bnk & Crdt	202	153	355	5.6	4.4	10.0	7.7	6.0	13.7	12.2	9.4	21.7
61 Insurance	113	204	316	3.3	5.5	8.8	4.1	6.9	11.0	9.7	16.1	25.8
62 Real Estat	96	64	160	0.8	0.5	1.3	48.5	27.8	76.3	59.7	34.2	93.9
63 Htls Lodgn	223	42	265	1.9	0.4	2.2	2.4	0.5	2.9	5.6	1.1	6.7
64 Per & Repr	172	116	288	4.4	2.7	7.1	8.4	5.2	13.6	15.6	9.7	25.3
65 Bus Servic	71	302	373	1.7	6.7	8.4	2.9	11.7	14.5	4.0	16.3	20.3
66 Prof Servc	478	197	675	17.8	7.4	25.2	29.4	12.2	41.7	43.9	18.2	62.2
67 Movies&Amu	77	52	129	0.8	0.5	1.4	1.2	0.8	2.1	2.5	1.7	4.2
68 Hospitals	1625	-61	1564	32.3	0.0	32.3	33.6	0.8	34.4	66.2	1.5	67.8
69 Medical NE	1418	116	1534	44.0	4.1	48.0	59.9	5.8	65.7	105.7	10.2	115.9
70 Educ Servc	117	50	167	1.2	0.3	1.5	1.4	0.4	1.9	2.2	0.6	2.8
71 Oth Ser NE	385	166	551	3.6	0.8	4.4	4.3	0.9	5.3	7.0	1.5	8.5
72 Fed Gov En	46	66	112	1.5	2.2	3.7	1.6	2.4	4.0	1.8	2.7	4.5
73 S&L Gov En	35	27	62	0.7	0.6	1.3	0.9	0.7	1.6	2.2	1.8	4.1
74 Scrap,Seco	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	-2.3	0.0
75 Gov Indust	0	15	15	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.2	0.2
Total	3811	5613	9424	15.5	142.4	157.9	107.4	224.7	332.1	215.0	452.1	667.1

Table 6A. Economic effects of a tax-adjusted increase in personal consumption expenditures: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	11	150	161	0.1	1.3	1.4	0.3	4.7	5.0	2.1	29.8	31.9
2 Food&Feed	5	99	104	0.0	0.6	0.6	0.4	7.2	7.6	0.8	16.2	17.0
3 Ag S Fr F	2	31	33	0.0	0.4	0.4	0.1	0.7	0.8	0.1	1.2	1.3
4 Iron Ore	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 Coal Mine	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 Petr&Nt G	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,	0	10	10	0.0	0.3	0.3	0.0	0.6	0.6	0.0	1.0	1.0
9 Chm Fer M	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 New Const	0	1560	1560	0.0	67.3	67.3	0.0	78.9	78.9	0.0	223.2	223.2
11 Maint&Rep	0	466	466	0.0	16.4	16.4	0.0	18.6	18.6	0.0	39.4	39.4
12 Ordnance	0	5	5	0.0	0.2	0.2	0.0	0.2	0.3	0.0	0.4	0.5
13 Meat Prod	54	87	141	1.3	2.2	3.5	1.6	2.7	4.3	13.0	21.8	34.8
14 Dairy Pro	23	41	64	0.5	1.0	1.5	1.0	1.9	2.8	6.8	13.2	20.0
15 Grain Mil	7	20	26	0.2	0.5	0.6	0.4	1.2	1.6	1.5	4.9	6.4
16 Food NEC	96	130	226	2.6	3.9	6.6	4.7	7.2	11.9	19.3	29.5	48.8
17 Textiles	1	3	4	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.3
18 Apparel&	52	50	103	0.8	0.8	1.6	1.0	1.2	2.2	3.1	3.4	6.5
19 Logging	0	3	3	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.4	0.4
20 Other Woo	3	101	104	0.1	1.7	1.8	0.1	2.4	2.4	0.2	7.9	8.1
21 Furn & Fi	18	21	39	0.4	0.5	0.9	0.5	0.7	1.2	1.3	1.7	3.1
22 Paper&All	2	39	41	0.1	1.3	1.4	0.1	1.9	2.0	0.3	5.9	6.2
23 Print&Pub	53	331	385	1.4	9.4	10.9	2.0	13.9	16.0	4.8	32.7	37.5
24 Chem&Alli	30	64	94	0.9	2.1	3.0	1.7	4.0	5.7	5.2	12.4	17.7
25 Petrl Ref	11	31	42	0.3	1.1	1.4	0.8	2.6	3.4	7.7	23.6	31.3
26 Rubber&Pl	1	7	8	0.0	0.2	0.2	0.0	0.3	0.3	0.1	0.7	0.8
27 Leather P	15	17	32	0.2	0.3	0.5	0.4	0.5	0.9	0.9	1.1	2.0
28 Glass,Sto	3	22	25	0.1	0.9	1.0	0.1	1.1	1.2	0.3	2.9	3.2
29 Ferr Meta	0	6	6	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.5	0.5
30 Prm Met N	0	10	10	0.0	0.3	0.3	0.0	0.4	0.4	0.0	0.9	0.9
31 Fab Met N	6	101	107	0.2	2.9	3.0	0.2	4.2	4.4	0.5	10.3	10.8
32 Computers	1	191	192	0.0	11.1	11.1	0.0	14.0	14.0	0.1	25.9	26.0
33 Oth Ofc E	1	3	4	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.3	0.3
34 Con Min E	0	5	5	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.4	0.4
35 NonElc NE	7	562	569	0.2	16.6	16.8	0.3	22.1	22.4	0.7	53.9	54.6
36 Elc Ind A	1	155	155	0.0	4.8	4.8	0.0	6.4	6.4	0.0	14.6	14.7
37 House App	3	20	24	0.1	0.4	0.5	0.1	0.6	0.7	0.3	1.8	2.1
38 Comm Equi	3	26	29	0.1	0.9	1.0	0.1	1.0	1.1	0.2	2.0	2.2
39 Elc Cmp N	4	52	56	0.1	1.2	1.3	0.1	1.4	1.5	0.3	3.9	4.1
40 Misc Elc	20	102	122	0.6	3.1	3.7	0.7	4.1	4.8	2.1	11.9	14.0
41 Motor Veh	12	16	28	0.4	0.6	1.0	0.5	0.8	1.4	2.0	3.1	5.2
42 Oth Tran	7	9	15	0.3	0.4	0.7	0.4	0.5	0.9	0.8	1.2	1.9
43 Prof&Scn	1	285	286	0.0	7.1	7.2	0.0	9.3	9.4	0.1	17.1	17.2
44 Med Instr	6	137	143	0.2	5.1	5.3	0.3	7.9	8.2	0.6	15.3	15.9
45 Misc Inst	7	18	24	0.2	0.6	0.8	0.4	1.0	1.4	0.7	2.0	2.6
46 Misc Manu	14	66	80	0.3	1.7	2.0	0.5	2.8	3.3	1.3	6.8	8.1
47 Railrd Tr	20	96	116	0.7	3.4	4.0	0.8	4.2	5.0	1.5	7.8	9.3
48 Lcl Trans	44	94	139	1.2	2.6	3.8	1.7	3.6	5.3	2.4	5.1	7.4
49 Trck Ware	51	287	339	1.3	7.7	9.0	2.0	12.0	14.0	3.4	20.2	23.6
50 Wtr & Pip	4	16	20	0.2	0.8	1.0	0.5	2.2	2.7	1.3	6.2	7.6
51 Air Trans	83	156	240	2.8	5.7	8.5	3.6	7.4	11.0	11.4	23.7	35.1
52 Trans Ser	6	56	62	0.1	0.8	0.9	0.1	1.2	1.4	0.2	2.2	2.4
53 Comm Serv	132	364	496	5.0	15.2	20.2	10.0	30.7	40.7	12.7	39.0	51.7
54 Elec Util	61	125	187	1.8	4.0	5.8	6.6	14.9	21.5	13.7	30.9	44.6
55 Gas Utili	25	96	121	0.6	2.5	3.1	1.9	7.8	9.8	9.0	36.1	45.1
56 Watr & Sa	11	27	37	0.3	0.6	0.9	0.6	1.5	2.1	1.0	2.5	3.5
57 Whlsl Tra	503	1741	2244	12.6	45.6	58.3	21.4	78.5	99.9	32.2	117.8	150.0
58 Eat&Drink	1593	2227	3820	15.1	20.6	35.7	21.4	29.2	50.6	52.6	71.9	124.5
59 Oth Retai	3688	4022	7710	48.9	55.0	103.9	83.4	99.7	183.1	115.1	137.5	252.5
60 Bnk & Crd	543	969	1512	15.1	28.3	43.4	20.8	39.8	60.6	32.9	62.9	95.8
61 Insurance	283	864	1147	8.3	24.2	32.4	10.3	31.1	41.4	24.3	73.1	97.3
62 Real Esta	258	372	630	2.2	3.0	5.2	130.1	183.3	313.4	159.9	225.4	385.3
63 Htls Lodg	356	577	933	3.0	4.8	7.8	3.9	6.3	10.2	9.0	14.6	23.5
64 Per & Rep	389	619	1008	9.9	15.5	25.4	18.9	29.6	48.5	35.3	55.1	90.3
65 Bus Servi	39	1136	1175	0.9	26.6	27.5	1.6	46.0	47.5	2.2	64.3	66.5
66 Prof Serv	122	525	647	4.6	19.7	24.2	7.5	32.5	40.0	11.2	48.5	59.7
67 Movies&Am	221	372	592	2.3	4.0	6.3	3.5	6.4	9.9	7.2	13.0	20.2
68 Hospitals	855	628	1483	17.0	13.8	30.8	17.7	15.2	32.9	34.9	30.0	64.8
69 Medical N	886	878	1764	27.5	27.4	54.8	37.4	37.5	75.0	66.1	66.3	132.3
70 Educ Serv	579	622	1201	5.8	5.6	11.4	7.1	6.9	14.1	10.7	10.4	21.2
71 Oth Ser N	1144	1510	2654	10.6	10.6	21.2	12.8	13.5	26.3	20.7	21.8	42.5
72 Fed Gov E	64	261	325	2.0	8.9	10.9	2.2	9.8	12.1	2.5	11.1	13.6
73 S&L Gov E	95	160	255	2.0	3.5	5.5	2.4	4.1	6.5	6.1	10.6	16.7
74 Scrap,Sec	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75 Gov Indus	0	860	860	0.0	21.8	21.8	0.0	22.1	22.1	0.0	22.1	22.1
Total	12536.7	24707.9	37244.6	213.5	551.9	765.4	449.4	1006.8	1456.3	756.8	1875.5	2632.3

Table 7A. Economic effects of combined military spending reductions and personal expenditure increases: Minnesota

Industry	Employment Direct	Employment Indirect	Employment Total	Earnings Direct	Earnings Indirect	Earnings Total	Value Added Direct	Value Added Indirect	Value Added Total	Gross Output Direct	Gross Output Indirect	Gross Output Total
	(no.)	(no.)	(no.)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)	(mil.$)
1 Livestock	11	55	67	0.1	0.5	0.6	0.3	1.7	2.0	2.1	10.8	12.9
2 Food&Feed	5	35	40	0.0	0.2	0.2	0.4	2.5	2.8	0.8	5.5	6.3
3 Ag S Fr Fs	2	10	13	0.0	0.1	0.2	0.1	0.2	0.3	0.1	0.4	0.5
4 Iron Ore M	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 Oth Metal	-4	0	-4	-0.1	0.0	-0.1	-0.2	0.0	-0.2	-0.3	0.0	-0.3
6 Coal Mine	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 Petr&Nt Gs	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 Stne,Cly,G	0	4	4	0.0	0.1	0.1	0.0	0.2	0.2	0.0	0.4	0.4
9 Chm Fer Mn	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 New Constr	-40	758	717	-1.7	32.7	31.0	-2.0	38.4	36.3	-5.8	108.4	102.7
11 Maint&Repr	-35	130	94	-1.2	4.6	3.3	-1.4	5.2	3.8	-3.0	11.0	8.0
12 Ordnance	-1997	178	-1819	-81.7	7.3	-74.4	-93.3	0.0	-93.3	-170.8	0.0	-170.8
13 Meat Prods	40	16	56	1.0	0.4	1.4	1.2	0.5	1.7	9.7	3.9	13.5
14 Dairy Prod	18	7	26	0.4	0.2	0.6	0.7	0.4	1.1	5.2	2.5	7.7
15 Grain Mill	-10	6	-4	-0.2	0.1	-0.1	-0.5	0.3	-0.3	-2.2	1.2	-1.1
16 Food NEC	79	16	95	2.2	0.5	2.7	3.9	1.0	4.9	15.9	4.0	19.9
17 Textiles	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
18 Apparel& R	38	-3	35	0.6	-0.0	0.5	0.8	-0.0	0.7	2.2	-0.1	2.1
19 Logging	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 Other Wood	3	20	23	0.1	0.3	0.4	0.1	0.4	0.5	0.2	1.5	1.7
21 Furn & Fix	12	0	12	0.2	0.0	0.3	0.3	0.0	0.3	0.8	0.0	0.9
22 Paper&Alld	-6	-9	-15	-0.2	-0.3	-0.5	-0.3	-0.5	-0.8	-0.8	-1.6	-2.4
23 Print&Publ	49	49	99	1.3	1.4	2.7	1.9	2.0	3.9	4.5	4.6	9.1
24 Chem&Allid	29	-5	24	0.9	-0.1	0.7	1.6	-0.3	1.3	5.0	-0.8	4.2
25 Petrl Refn	10	2	13	0.3	0.1	0.4	0.8	0.2	1.0	7.1	1.9	9.0
26 Rubber&Pls	1	1	2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
27 Leather Pr	15	-0	15	0.2	0.0	0.2	0.4	0.0	0.4	0.9	0.0	0.9
28 Glass,Ston	2	0	2	0.1	-0.0	0.1	0.1	-0.0	0.1	0.3	-0.0	0.2
29 Ferr Metal	-0	-4	-4	-0.0	-0.1	-0.1	-0.0	-0.2	-0.2	-0.0	-0.4	-0.4
30 Prm Met NE	0	-11	-11	0.0	-0.4	-0.4	0.0	-0.4	-0.4	0.0	-1.0	-1.0
31 Fab Met NE	-21	-15	-36	-0.6	-0.5	-1.1	-0.8	-0.8	-1.6	-2.0	-2.0	-3.9
32 Computers	-723	17	-706	-39.2	-2.5	-41.7	-48.8	-4.1	-52.9	-90.4	-7.6	-98.0
33 Oth Ofc Eq	-3	1	-2	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.2	0.0	-0.2
34 Con Min Eq	-6	1	-5	-0.1	0.0	-0.1	-0.2	0.0	-0.2	-0.5	0.1	-0.5
35 NonElc NEC	-178	157	-21	-4.9	4.1	-0.9	-6.5	5.2	-1.3	-15.9	12.8	-3.1
36 Elc Ind Ap	-440	57	-383	-12.7	0.6	-12.0	-16.8	0.5	-16.2	-38.4	1.2	-37.2
37 House Appl	3	7	11	0.1	0.1	0.2	0.1	0.2	0.3	0.3	0.6	0.9
38 Comm Equip	-761	56	-705	-25.2	0.3	-24.9	-27.7	-0.1	-27.8	-55.2	-0.2	-55.4
39 Elc Cmp NE	-27	-159	-185	-0.6	-3.8	-4.4	-0.7	-4.6	-5.3	-1.8	-12.3	-14.1
40 Misc Elc E	-11	38	27	-0.3	1.1	0.8	-0.4	1.4	1.0	-1.1	4.0	2.8
41 Motor Vehc	-5	1	-4	-0.2	0.0	-0.2	-0.2	0.0	-0.2	-0.8	0.0	-0.8
42 Oth Tran E	-373	26	-347	-14.9	-0.3	-15.2	-20.6	-0.4	-20.9	-44.4	-0.8	-45.3
43 Prof&Scn I	-1171	241	-930	-27.5	3.9	-23.6	-35.4	4.2	-31.2	-64.9	7.6	-57.3
44 Med Instrm	3	52	55	0.1	1.9	2.0	0.2	2.9	3.0	0.3	5.6	5.9
45 Misc Instr	-375	29	-346	-11.7	0.1	-11.6	-20.0	-0.4	-20.4	-37.5	-0.8	-38.3
46 Misc Manuf	-77	30	-47	-1.9	0.6	-1.2	-3.0	0.9	-2.1	-7.2	2.2	-5.0
47 Railrd Trn	20	16	36	0.7	0.6	1.2	0.8	0.7	1.5	1.5	1.3	2.8
48 Lcl Transp	44	-9	36	1.2	-0.2	1.0	1.7	-0.3	1.4	2.4	-0.4	1.9
49 Trck Wareh	51	42	94	1.3	1.2	2.5	2.0	1.8	3.9	3.4	3.1	6.5
50 Wtr & Pipe	4	3	7	0.2	0.2	0.3	0.5	0.4	0.9	1.3	1.2	2.6
51 Air Transp	-46	-5	-51	-1.5	-0.4	-1.9	-2.0	-0.5	-2.5	-6.3	-1.7	-8.0
52 Trans Serv	5	-4	2	0.1	-0.1	0.0	0.1	-0.1	0.0	0.2	-0.2	0.0
53 Comm Servi	116	72	187	4.4	3.0	7.4	8.8	6.1	14.8	11.1	7.7	18.8
54 Elec Utily	47	7	55	1.4	0.2	1.6	5.1	0.9	6.0	10.6	1.9	12.5
55 Gas Utilit	25	18	43	0.6	0.5	1.1	1.9	1.5	3.4	9.0	6.7	15.7
56 Watr & San	11	4	14	0.3	0.1	0.3	0.6	0.2	0.8	1.0	0.3	1.3
57 Whlsl Trad	503	145	648	12.6	3.8	16.5	21.4	6.4	27.9	32.2	9.6	41.8
58 Eat&Drink	1593	-92	1501	15.1	-1.1	13.9	21.4	-1.6	19.8	52.6	-4.0	48.6
59 Oth Retail	3688	14	3703	48.9	0.7	49.7	83.4	3.0	86.4	115.1	4.2	119.2
60 Bnk & Crdt	543	74	617	15.1	2.4	17.5	20.8	3.4	24.2	32.9	5.4	38.3
61 Insurance	283	205	488	8.3	5.4	13.6	10.3	6.8	17.1	24.3	16.1	40.3
62 Real Estat	252	28	280	2.1	0.1	2.3	127.0	8.7	135.7	156.2	10.7	166.9
63 Htls Lodgn	356	-57	299	3.0	-0.5	2.5	3.9	-0.6	3.3	9.0	-1.4	7.5
64 Per & Repr	386	26	412	9.8	0.4	10.2	18.8	0.7	19.5	35.0	1.4	36.4
65 Bus Servic	-140	198	57	-3.3	4.3	1.0	-5.7	7.5	1.8	-8.0	10.4	2.5
66 Prof Servc	97	88	185	3.6	3.3	6.9	6.0	5.4	11.4	8.9	8.1	16.9
67 Movies&Amu	221	35	256	2.3	0.4	2.7	3.5	0.7	4.2	7.2	1.3	8.5
68 Hospitals	855	-120	736	17.0	-1.9	15.1	17.7	-1.7	16.0	34.9	-3.3	31.6
69 Medical NE	867	-41	826	26.9	-0.9	26.0	36.6	-1.1	35.6	64.7	-1.9	62.8
70 Educ Servc	555	-22	533	5.5	-0.5	5.0	6.8	-0.7	6.2	10.3	-1.0	9.3
71 Oth Ser NE	1144	55	1199	10.6	-1.1	9.6	12.8	-1.1	11.7	20.7	-1.8	18.9
72 Fed Gov En	64	47	111	2.0	1.6	3.7	2.2	1.7	4.0	2.5	2.0	4.5
73 S&L Gov En	95	4	99	2.0	0.1	2.1	2.4	0.1	2.5	6.1	0.3	6.4
74 Scrap,Seco	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75 Gov Indust	0	-111	-111	0.0	-3.0	-3.0	0.0	-3.1	-3.1	0.0	-3.1	-3.1
Total	5699	2415	8114	-27.3	71.8	44.6	143.0	101.8	244.8	150.8	235.6	386.4

APPENDIX B: Defining and Computing the Five Spending Options

The direct effect of a spending option is the change in final purchases of industry outputs associated with each spending option. The indirect (including induced) effect is the accumulated expenditure of economic units that is recycled within the economy because of industry and sector linkages. The total effect is the sum of the direct effect and the indirect (including induced) effect. All computations are based on the University of Minnesota Interactive Policy Analysis Simulation System (IPASS) computer model.

The five spending options are differentiated as follows;

Option 1: a 25% or $606 million reduction in total US military procurement outlays in Minnesota from 1987 levels;

Option 2: an increase in federally-funded state and local government services spending equivalent to the tax savings of a 25 percent reduction in US military procurement funding and 12.5 percent reduction in US military non-procurement spending.

Option 3: Combined Option 1 and Option 2.

Option 4: an increase in personal consumption expenditures equivalent to the tax savings of a 25 percent reduction in US military procurement spending and 12.5% reduction in US military non-procurement spending.

Option 5: Combined Option 1 and Option 4.

The 75-industry breakdown (in Table 1A to Table 7A) is aggregated to 10-industry groups (in Table 1 to Table 7) as follows:

Industry Group	75-Industry Classification
Agriculture	1-3
Mining	4-9
Construction	10-11
Manufacturing: nondurables	13-18, 22-27
Manufacturing: durables	12,19-21, 28-46
Trans., Communications, Public Util.	47-56
Trade	57-59
Finance, Insurance, Real Estate	60-62
Private Services	63-71
Government	72-75