PARTIAL LOSS DEVELOPMENT BASED ON EXPECTED LOSSES FOR WORKERS' COMPENSATION CLASS RATEMAKING

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Biography

Michael Lamb is the Casualty Actuary for the Oregon Department of Insurance and Finance and has served as chairman of the NAIC Casualty Actuarial Task Force since March 1989. He also chairs the NAIC Workers' Compensation Data Reporting Working Group and serves on the group which oversees NCCI compliance with recommendations of the recent NAIC examination. Over several years, he has had active roles in NAIC projects on workers' compensation, medical malpractice, product liability, and other current issues. Besides the State of Oregon, Mr. Lamb's career includes employment with Argonaut Insurance Company and Wausau Insurance Companies. He has mathematics degrees from Utah State and Purdue universities and an MBA from the University of Washington.

Michael presented a discussion paper on using closed claim data for ratemaking in 1980. He has participated on panels at CAS meetings on workers' compensation competitive rating laws (November 1982) and on casualty loss reserve opinions (May, September 1991). Mr. Lamb is on the Casualty Committee of the Actuarial Standards Board. He was one of the principal designers of the competitive workers' compensation rating law for Oregon, which is essentially the design of loss cost systems being adopted by NCCI and ISO.

Abstract

The standard multiplicative loss development factors applied to reported losses by class serve to amplify instability in partial loss data. A method of assigning loss development based on expected losses is described and tested using four years of actual class data for Oregon. The method uses payroll and "pure premium present on rate level" to estimate expected losses. Test statistics are devised to compare stability of rates calculated using this revised method and rates calculated in the standard manner. The tests are based on residuals from linear trend lines and on absolute magnitude of 1992 rate revisions by class. The tests support a conclusion that the revised method produces significantly greater rate stability eventhough credibility of indicated state experience is enhanced. There is brief discussion of other stability approaches and topics for further research in class ratemaking.

PARTIAL LOSS DEVELOPMENT BASED ON EXPECTED LOSSES FOR WORKERS' COMPENSATION CLASS RATEMAKING

Stability of premium rates by class has always been a primary objective for ratemaking methods. In recent times, actuaries have given more attention to responsiveness, which is the counterbalance to stability in ratemaking thought. The focus in this paper is exclusively on premium rate stability for workers' compensation classes.

The National Association of Insurance Commissioners (NAIC) completed an examination of the National Council on Compensation Insurance (NCCI) in 1991 which included a major review of ratemaking procedures. An important recommendation from the examination is that the National Council should use five years of experience for class ratemaking instead of only three. The purpose of this paper is to present an alternative means of enhancing class rate stability in a less haphazard manner which would not require the cost or loss of responsiveness from using additional years of data. The scope of the examination was not broad enough to include such alternatives.

The public has cause to criticize the National Council for wild swings in class rates. On the other hand, using five years of data could create ill will from the public which follows experience by selected class and is anxious to be rid of any "bad year."

A simple problem

Ratemaking procedures should not introduce instability or amplify intrinsic instabilities in the class experience data. For over a decade, regulators in some high-loss development states have believed that the customary multiplicative partial loss development factors have amplified class rate instability.

An easily understood example from Oregon is the serious indemnity loss development factor for losses at first report, which has approached 4.00 for several decades. Most "serious" injury claims take several years to emerge, usually migrating from the "non-serious" column. A serious injury on the first report in most classes is highly fortuitous. Even for large construction classes, serious losses on first report do not reliably predict ultimate losses. Nevertheless, the multiplicative loss development factor assigns all the anticipated loss development for the serious category to those classes which happen to have a serious injury on the first report. Classes which do not happen to show any serious cases get assigned no serious partial loss development.

Permanent partial disability cases are categorized as "major" (and "serious") or "minor" (and "non-serious") according to a single critical dollar amount. Whether or not this artificial distinction has a material effect on partial

loss development is not addressed in this paper. This seemingly mundane topic may be a worthwhile subject for our actuarial literature.

A simple solution

The partial loss development procedure described in this paper is derived from the procedure used by the Oregon Insurance Division to adjust class rate relativities for this instability. Partial loss development is assigned to each class in proportion to partial expected losses. In that manner, the historical tendency of serious cases to eventually emerge in each class is more accurately recognized. All other mechanics and adjustments of the standard National Council class ratemaking procedure are preserved.

Partial pure premiums "present on rate level", multiplied by $100 units of payroll, determine the partial expected losses for a class. The complement of the inverse of the multiplicative partial loss development factor determines the portion of ultimate losses expected to yet emerge.

The enhanced stability of the revised loss development method means that partial credibilities can be enhanced. The Oregon Insurance Division has been using a simple classic square-root formula instead of the two-thirds root of the ratio of expected losses to the full-credibility standard used by the National Council. This concession seems to preserve a reasonable balance between stability and responsiveness.

After class rates are recalculated using the revised loss development method, balancing factors similar to the National Council test correction factors are determined by an iterative process so that class rates constrained by swing limits produce the same overall rate changes by industry group as would be achieved by the National Council rates. Such balancing procedures result in cross subsidies between classes which we should expect to diminish when systematic causes of rate instability are addressed.

DETAILS OF THE REVISED LOSS DEVELOPMENT MODEL

For the past few years, the Oregon Insurance Division has been obtaining payroll and loss data by class from the National Council. The source is described as "Report NC-235" by the NCCI and is the basis for class experience displayed in rate filings. The Oregon Insurance Division has been recreating the National Council published exhibits of class experience (Appendix B-II of NCCI filings), then recalculating partial pure premiums using the revised partial loss development method. The resulting premium rates for several dozen classes have been found to differ from National Council originally-filed rates by more than five percent and revised filings have been required. The affected classes have included several full-credibility classes. The loss development instability is not a small-credibility problem.

The partial loss development factors published by the National Council in Appendix B-I to its filings include an adjustment to the aggregate loss ratio of the latest policy year. Hence, the published factors may not precisely measure loss development. Nevertheless, the published factors have been used for this paper so the results can be replicated or similarly investigated for other states. The National Council appears to be separating the policy-year adjustment from loss development factors beginning with filings made late in 1992.

The revised method bases loss development on expected loss, using pure premiums "present on rate level" and payroll. The review of rates filed in Oregon each year has used as input for the revised method the same underlying pure premium rates as used by the National Council. These are derived from loss cost rates approved for the previous year. Hence, the review has not been a true test of the different concepts. The effect of the revised development method can only be seen when the pure premium "present on rate level" has been generated by the revised method in a succession of preceding rate revisions.

Exhibit 1 shows a comparison of the rate revision computations using the two partial loss development methods. The revisions for 1990 begin with the same set of 1989 base rates, hence this exhibit shows the actual revisions

performed for this paper. The revisions for 1991 and 1992 use differing pure premium input data for the two development methods so separate worksheets were needed.

The rate revisions for Class 7600 in Exhibit 1 achieve materially different results and also illustrate the enhanced credibility formula used with the revised procedure. The NCCI credibility formula is the two-thirds root of the ratio of partial expected losses to the 100 percent standard. The Revised Procedure uses a simple square root formula (or a three-fourths root of the NCCI credibility).

The only other difference is the provision for loss development. The NCCI rate filing for 1990 displayed these loss development factors in Appendix B-I:

Policy Period	Indemnity		Medical
	Serious	Non-Serious	
1984	1.417	.996	1.197
1985	1.993	.990	1.348
1986	3.773	.962	1.562
Three-Year Fixed	2.394	.983	1.369

Exhibit 1 shows the payroll and losses as they would be shown in the National Council filing Appendix B-II. The losses have been developed and adjusted to current benefits, trends, and accident-year experience. The revised model simply divides these displayed losses by the partial loss development

factors. Then a portion of expected losses as provision for loss development is added to the "Undeveloped Losses" and the result is labeled "Revised Losses."

Class 7600 had three serious injury cases on the first report for 1986 policies. The National Council displayed $1,731,862 losses for these cases and for anticipated development. The revised model divided this amount by 3.773, the serious indemnity development factor for 1986. The result is $459,015 "undeveloped losses" for the three cases.

The 3.773 development factor means that reported serious indemnity losses at first report should be 26.5 percent of the ultimate amount (1/3.733 = .265). Expected loss development should be 73.5 percent of expected losses. The "Revised Losses", including loss development, is computed as follows:

Pure Premium "Present on Rate Level"	1.203
Times: Payroll in $100s	435476.49
Equals: Expected serious losses	$523,878.22
Times: Expected development portion	.734959
Equals: Expected loss development	$385,029
Plus: "Undeveloped Losses"	459,015
Equals: Revised losses	$844,044

The model proceeds from there in the same manner as the National Council filings. The formula pure premium gives state credibility weight to the indicated pure premium, the national credibility weight to the pure premium

"indicated by national relativity", and the remaining weight to the pure premium "present on rate level". Further adjustments for the financial data overall rate level, industry group differentials, benefit changes, changes in trends, and a test correction factor are described in NCCI filings Appendix B-III. This paper does not address the appropriateness of these elements of the class ratemaking process.

The rate for Class 7600 for 1990 is shown in Exhibit 3 as $3.06 after the balancing factors to achieve the overall and industry group averages.

Oregon has a premium adjustment program for most contracting classes. Employers in those classes that pay average wages over $15/hour and do not have debit experience rating modifications may apply for premium credits. The rates for those classes in 1991 and 1992 have been increased two percent to offset anticipated credits. No offset was needed in 1990 for Class 7600, which is in the "all other" industry group.

Balancing Factors

Exhibit 2 describes the process of balancing class rates to achieve the industry group and overall average revision for 1992. The overall revision was an 11.0 percent decrease. The percentages decreases for the

manufacturing, contracting, and all other industry groups, respectively, were 11.2, 2.1, and 12.8.

The exhibit shows the current rate (1991 loss cost rate determined using the revised partial development procedure) and the formula revised rate determined from the 1992 version of the worksheet described in Exhibit 1. The "partial pure premium" columns add up to the revised rate, less any disease element. Next is a calculation of premium at the current and the revised rates applied to payroll. The sum of the differences in premium over each industry group is divided by the sum of the premium at current rates to determine the weighted average changes.

Overall, the formula revised rates only achieved a 7.9 percent decrease instead of the 11 percent objective. The column headed "RevRate Adjusted" is the product of the formula revised rate and the industry group balancing factor shown at the bottom of Exhibit 2. The worksheet then applies the swing limits again and shows the results in next column, labeled "RevRate Limited".

Finally, the premium computed using the limited revised rate is compared with premium at current rates to determine what average revision has been achieved. The desired industry group averages could not be attained exactly without loss to the overall revision. The results are within one-tenth of a percent by industry group.

COMPARISON TESTS

Comparative Test of the Partial Loss Development Methods

The test for this paper compares the revised partial loss development method with the National Council method by starting from the approved Oregon advisory loss cost rates for 1989 and calculating revised loss cost rates for 1990, 1991, and 1992 using sequential pure premium input as calculated by each loss development method. The test statistics for comparing the two methods are based on volatility of rates for each class over the four years and on the absolute magnitude of the 1992 revisions by class.

The first test statistic is computed by fitting a straight line to the rates computed for the four years for each class then summing the squares of residuals from the line. The sum is divided by the square of the sum of the four-years of rates to standardize the statistic for each class. The comparison may be more relevant if the statistic for each class is weighted by premium. This weighting is achieved by multiplying each class statistic by the latest 3-year payroll total and by the sum of the four-years of rates for the class. This four-year comparison can be seen visually in the accompanying graphs.

The second test statistic is simply the relative magnitude of the latest revision, from 1991 to 1992. The absolute difference is standardized by dividing by the sum of the 1991 and 1992 rates for the class. The premium-weighted version is computed by multiplying by three years of payroll and the sum of the rates.

The sums over all classes of these test statistics are as follows:

	TEST 1 Mean Squared Residuals		TEST 2 Latest Revision	
	Simple	Weighted	Simple	Weighted
NCCI Loss Development Method:	.5545	8767868	36.191	554808483
Revised Loss Development Method:	.3886	6568715	30.776	475227783

The lower statistics for the revised loss development method suggest greater stability.

The loss cost rates calculated by these procedures and the previously discussed comparative statistics are displayed in Exhibit 3. The comparison graphs illustrate the first test statistic. The line fitted to the four rates for each class should account for the influence of loss cost trends with the residuals representing various unstable factors.

The second test assumes that the 1992 revision is the most appropriate for comparing the methods since the pure premium input for the revised method

would have resulted from the most successive applications of the revised development concept.

The test statistics do not include any classes for which rates were not available during all four years. Some classes are too new to have any experience. Some were discontinued and the payrolls and losses reassigned to other classes. These analytical impurities are part of the living classification system and a ratemaking method must be robust enough to accommodate them and still produce acceptable results.

CONCLUSION

The revised method of partial loss development improves rate stability. Because this improvement was realized while enhancing partial credibilities, it would not be proper to suggest restricting credibilities as an alternative for improving stability. An absurd indicated pure premium ratio will still be absurd when given a somewhat lower credibility weight.

Any revision to the ratemaking process which makes it more stable could be seen as assigning more credibility to years earlier than the latest. It does not follow, however, that any scheme which simply adjusts the credibility

weights by year could produce optimal results. Directly addressing systematic causes of instability should be preferred before testing different credibility approaches.

TOPICS FOR FURTHER RESEARCH

Classification ratemaking is not sufficiently addressed in recent actuarial literature. Several topics have arisen during the preparation of this paper, from discussion with other actuaries, from the NAIC examination of the National Council, and from the NAIC working group overseeing the NCCI compliance with examination recommendations. Some of these topics are:

Optimal distinction between "major" and "minor" permanent partial disability cases.

Improved models for partial loss development, including migration between parts and development beyond the present statistical reporting horizon.

Bayesian credibility techniques where credibility of state class experience depends on variances in national relativity pure premium rates.

Loss limitations and swing limits for enhancing rate stability and equitable methods of balancing the effect to the overall rate level indications.

Refinements to the partial credibility scheme giving different weights to the different years.

INSPA:888

EXHIBIT 1

COMPUTATION OF REVISED PURE PREMIUM RATE
with loss development based on expected losses

Overall Revision	All Other
6.2%	Industry Group

Class: 7600 Telephone or Telegraph Co: All Other Employees & Dvrs

		Displayed Losses			Undeveloped Losses			Revised Losses		
	Payroll	Serious	Non-Ser	Medical	Serious	Non-Ser	Medical	Serious	Non-Ser	Medical
3-year	0	0	0	0	0	0	0	0	0	0
1984	42616748	393906	280841	500903	277986	281969	418465	428859	280879	505647
1985	49728462	145463	252282	480542	72987	254830	356485	371053	251631	516060
1986	43547649	1731862	237862	481927	459015	247258	308532	844044	236300	503288
	135892859	2271231	770985	1463372				1643956	768810	1524995

NAT'L COUNCIL PROCEDURE					REVISED PROCEDURE		
	Serious	Non-Ser	Medical		Serious	Non-Ser	Medical
	1.671	0.567	1.077	Indicated Pure Premiums	1.210	0.566	1.122
	1.203	0.637	1.243	P.P. "Present on Rate Level"			
	1.287	0.917	1.769	P.P. "Ind. by Nat'l Reltvty"			
	0.59	0.78	1.00	State Credibility	0.67	0.83	1.00
Total	0.20	0.11	0.00	National Credibility	0.16	0.08	0.00
3.19	1.496	0.613	1.077	Formula Pure Premium	1.221	0.600	1.122
	1.008	1.008	1.008	Composite Factor			
	1.007	1.004	1.000	Effect of Benefit Change			
	1.092	1.092	0.975	Change in Trend Factor			
		3.39		Rounded Total		3.12	
		1.007		Ratio of Manual to Earned Premium		1.007	
		1.000		Contracting Prem Adj Program Offset		1.000	
				Specific Disease Loading			
		3.41		Calculated Pure Premium Rate		3.14	
Swing		2.86		Current Pure Premium Rate		2.86	
Limits:							
33%	above	3.41		Swing-Limited Pure Premium Rate		3.14	
14%	below	19.2%		Percentage Change		9.8%	
				Difference from Nat'l Council		-7.9%	

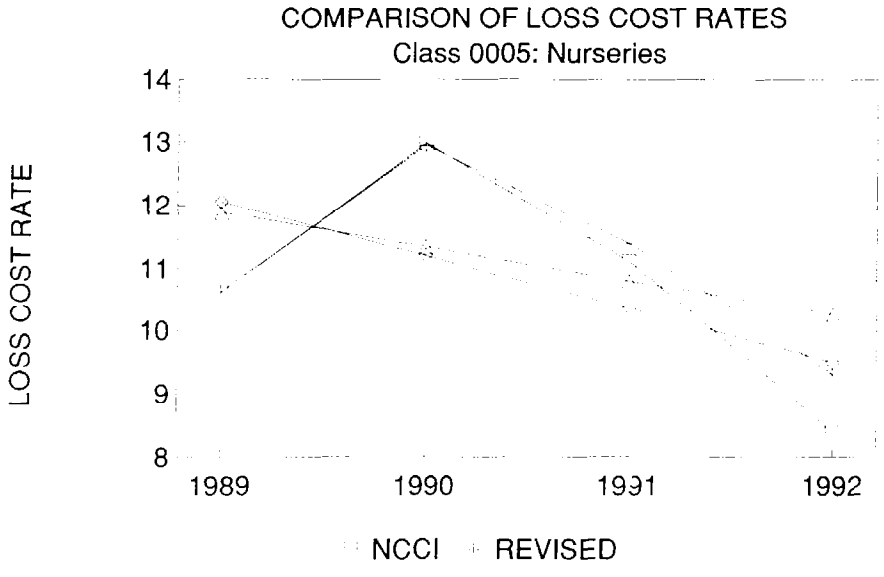
BALANCING OVERALL RATE CHANGES BY INDUSTRY GROUP

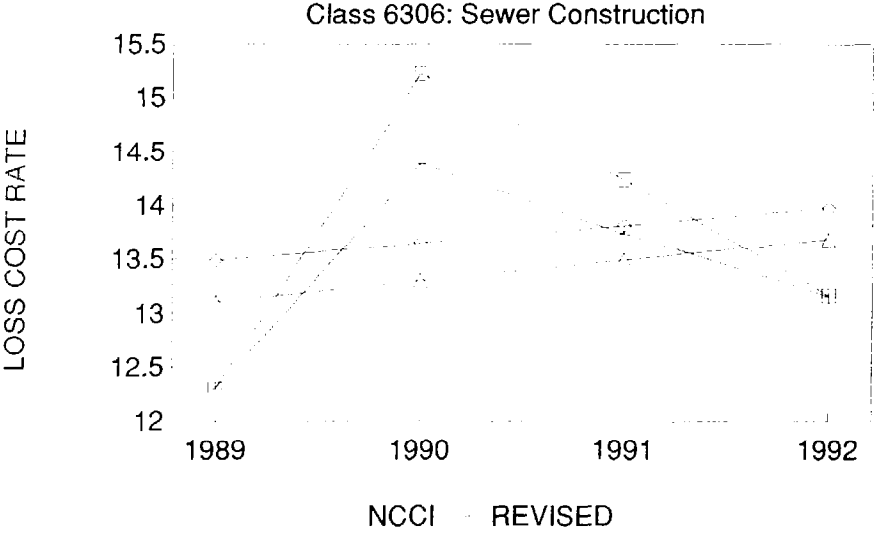
EXHIBIT 2

Oregon Loss Cost Rates for 1992 Using Revised Development Method

Ind Grp	Class	Current Rate	Revised Rate	Effect	Partial Pure Premiums REVser	REVnser	REVmed	3Pay/100	Premium@ CurrRate	Premium@ RevRate	Diffrnce	RevRate Adjusted	RevRate Limited	Adj.Ltd Diffrnce	Effect
Manufact.	1430	15.63	12.80	-18.1%	3.306	2.766	6.728	2593	40533	33194	-7339	12.21	12.21	-6669	-4.6%
Manufact.	1438	4.64	3.90	-15.9%	1.053	0.776	2.071	1515595	7032359	5910819	-1121540	3.72	3.72	-1394347	-4.6%
Manufact.	1452	4.79	4.69	-2.1%	1.332	0.972	2.386	1421	6807	6665	-142	4.48	4.48	-441	-4.5%
Manufact.	1463	9.08	8.82	-2.9%	3.985	1.510	3.325	81628	741180	719957	-21223	8.42	8.42	-53874	-4.5%
Contracting	50	9.17	9.53	3.9%	3.144	2.139	4.247	140401	1287480	1338025	50544	9.45	9.45	39312	-0.8%
Contracting	1322	--	--	--	--	--	--	0	0	0	0	0.00	--	0	
Contracting	2703	7.28	6.79	-6.7%	3.234	0.896	2.660	592261	4311659	4021451	-290208	6.73	6.73	-325743	-0.9%
Contracting	3365	14.66	15.91	8.5%	7.317	2.659	5.934	68199	999804	1085054	85249	15.77	15.77	75701	-0.9%
All Other	5	11.39	9.62	-15.5%	2.020	2.241	5.359	1541250	17554841	14826828	-2728013	9.31	9.31	-3205801	-3.2%
All Other	8	4.05	3.85	-4.9%	0.890	0.954	2.006	530906	2150169	2043988	-106181	3.72	3.72	-175199	-3.4%
All Other	16	8.99	8.42	-6.2%	2.011	2.211	4.198	850439	7645450	7160700	-484750	8.14	8.14	-722873	-3.3%
All Other	34	7.98	8.93	11.9%	2.378	1.855	4.697	203249	1621930	1815017	193087	8.64	8.64	134145	-3.2%

Manufacturing	-0.06976	0.9542	-0.11238
Contracting	-0.00232	0.9914	-0.02127
All Other	-0.09887	0.9673	-0.12874
	-0.07869	Balancing Factors	-0.10985


COMPARISON OF LOSS COST RATES
Class 0005: Nurseries
LOSS COST RATE
14
13
12
11
10
9
8
1989
1990
1991
1992
NCCI
REVISED


Class 6306: Sewer Construction
LOSS COST RATE
15.5
15
14.5
14
13.5
13
12.5
12
1989
1990
1991
1992
NCCI
REVISED

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(DA2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
0005 FARM: Nursery Employers & Drivers	10.62	12.97	11.11	8.39	0.00378	249924.7	0.139487	9263689.0
0008 FARM: Gardening & Drivers	4.64	4.72	4.08	3.80	0.00031	2793.723	0.036532	325227.03
0016 FARM: Orchard & Drivers	9.87	9.86	8.53	8.19	0.00022	6860.211	0.020334	630352.60
0034 FARM: Poultry Producer & Drivers	8.12	9.65	8.87	9.73	0.00067	4986.792	0.046236	341789.04
0035 FARM: Florist & Drivers	8.35	9.39	8.18	7.25	0.00117	19230.07	0.060272	983344.29
0036 FARM: Dairy & Drivers	14.95	16.01	13.84	11.65	0.00099	18484.68	0.085916	1601881.7
0037 FARM: Field Crops & Drivers	12.42	12.35	10.58	9.38	0.00029	17970.32	0.060120	3747110.8
0042 Landscape, Gardening & Drivers	14.23	18.11	15.96	14.24	0.00254	34000.37	0.056953	762994.43
0050 Farm Machinery Operation & Drivers	9.49	9.99	9.54	9.93	0.00011	588.3879	0.020030	109541.17
0079 FARM: Berry or Vineyard & Drivers	10.37	12.40	11.11	8.89	0.00588	57477.39	0.234444	2291819.2
0083 FARM: Cattle Raising NOC & Drivers	15.45	17.37	15.42	14.01	0.00097	25862.59	0.047910	1282244.3
0106 Tree Pruning & Drivers	20.64	22.93	20.63	17.76	0.00111	9394.169	0.074759	632018.80
0113 FARM: Fish Hatchery & Drivers	8.41	9.25	8.92	9.46	0.00018	91.01332	0.029379	15062.643
0116 Fruit Picking, On Ground	3.17	3.70	3.51	3.36	0.00077	1309.202	0.021834	37351.413
0117 FARM: Berry Picking	1.72	1.95	1.81	1.60	0.00106	2825.251	0.061583	164866.69
0124 Reforestation & Slash Piling & Drivers	20.43	27.15	30.40	33.38	0.00033	13634.65	0.046424	1942255.3
0169 FARM: Sheep Raising & Drivers	10.03	12.59	10.84	9.32	0.00284	5528.737	0.075396	146930.11
0170 FARM: Animal Raising & Drivers	6.87	7.24	7.26	6.44	0.00047	482.0375	0.059854	60982.035
0251 Irrigation Works Operation & Drivers	6.52	7.83	7.54	5.74	0.00317	11329.27	0.135542	484735.35
0917 Domestic Service Contractor - Inside	10.66	14.16	11.28	12.36	0.00292	3737.710	0.046570	59643.474
1005 Coal Mining - Surface & Drivers	8.42	7.83	--	--	--	0	--	0
1164 Mining NOC - Underground & Drivers	13.47	11.60	9.76	8.78	0.00012	17.33007	0.052858	7494.1448
1165 Mining NOC - Surface & Drivers	5.61	6.13	5.82	6.38	0.00025	196.9203	0.045901	35751.868
1320 Oil Lease Operator - All operations & Dri	7.17	7.50	8.43	5.09	0.00111	23.54347	0.116319	2488.1374
1322 Oil or Gas Well: Cleaning Old Wells & Dr	24.64	26.48	--	--	--	0	--	0
1430 Smelting - Lead & Drivers	18.61	16.98	15.93	12.13	0.00117	186.5852	0.135424	21851.106
1435 Smelting - Metals - Not Iron or Lead - NC	6.02	5.00	4.47	3.25	0.00023	6439.255	0.158031	4488437.5
1452 Ore Milling & Drivers	5.31	4.96	4.93	4.50	0.00007	1.985197	0.045599	1276.5698
1463 Asphalt Workers & Drivers	9.82	9.72	9.59	8.62	0.00016	480.1009	0.053267	184140.80
1470 Coke Manufacturing & Drivers	9.87	10.92	--	--	--	0	--	0
1472 Distillation - Wood & Drivers	5.76	6.43	7.39	6.53	0.00118	3257.879	0.081781	169858.78
1624 Quarry NOC & Drivers	16.19	16.92	14.40	11.24	0.00119	21037.33	0.123244	2170180.2
1642 Lime Manufacturing	7.02	6.89	7.84	--	--	0	--	0
1654 Quarry - Cement Rock & Drivers	6.87	6.93	6.87	6.54	0.00005	0.796582	0.024608	370.71585
1655 Lime Mfg - Quarry - Surface & Drivers	11.64	12.88	10.55	--	--	0	--	0
1699 Rock Wool Manufacturing	3.90	4.26	4.45	3.66	0.00137	230.5908	0.097410	16380.729
1701 Cement Manufacturing	5.21	6.28	6.31	5.29	0.00205	658.3209	0.087931	28175.505
1710 Stone Crushing & Drivers	15.45	15.22	13.29	13.25	0.00020	1048.138	0.001507	7897.5641
1741 Flint Grinding & Drivers	9.11	8.08	6.95	6.35	0.00007	0.091704	0.045112	58.219682
1747 Emery Works & Drivers	6.09	5.32	4.09	3.19	0.00010	20.47378	0.123626	24954.947
1748 Abrasive Wheel Manufacturing & Drivers	6.07	6.36	6.02	5.88	0.00014	37.97688	0.013468	3623.0183
1803 Stone Cutting NOC & Drivers	15.59	15.81	14.43	10.61	0.00129	660.2071	0.152555	77954.584
1852 Asbestos Goods Manufacturing	11.05	12.54	12.56	10.32	0.00163	861.6084	0.097902	51905.183
1880 Abrasive Paper or Cloth Preparation	--	--	--	--	--	0	--	0
1924 Wire Drawing - Not Iron or Steel	--	--	--	--	--	0	--	0
1925 Die Casting Manufacturing	11.00	9.80	9.15	8.62	0.00016	339.5490	0.029825	61542.474
2001 Cracker Manufacturing	8.90	9.41	9.35	8.58	0.00249	3057.311	0.173885	213550.00
2002 Macaroni Manufacturing	10.26	10.57	11.25	11.26	0.00064	8.978904	0.000444	78.045823
2003 Bakery & Drivers, Route Supervisors	5.00	6.22	5.77	4.51	0.00341	69861.86	0.122568	2513794.8
2014 Grain Milling	8.51	8.40	7.57	8.42	0.00048	4131.691	0.053158	464140.24
2016 Breakfast Food Manufacturing	2.95	3.04	3.04	2.32	0.00143	110.2871	0.134028	10379.431
2021 Sugar Refining	3.62	3.95	4.54	4.21	0.00067	26.63918	0.037714	1498.9263
2030 Sugar Manufacturing, Beet	12.40	9.87	--	--	--	0	--	0
2039 Ice Cream Manufacturing & Drivers	5.71	5.53	5.36	5.42	0.00003	69.97898	0.005565	11228.164
2041 Confection Manufacturing	6.34	6.82	7.07	5.05	0.00277	2275.972	0.168666	136916.05
2065 Milk Products Manufacturing NOC	5.06	5.30	5.77	5.20	0.00054	29.38529	0.051959	2839.2211
2070 Creamery & Route Supervisors, Drivers	6.67	7.71	6.78	5.98	0.00145	27941.85	0.062695	1209457.2
2086 Poultry Processors	--	--	--	--	--	0	--	0
2089 Packing House - All Operations	8.34	8.82	9.01	7.82	0.00065	4031.960	0.070707	435309.27
2095 Meat Products Manufacturing NOC	8.52	10.59	12.17	11.72	0.00092	3658.881	0.018836	197167.48
2101 Fish Curing	9.82	9.31	8.07	5.91	0.00062	95.10860	0.154506	23606.230
2104 Seafood Processors	--	--	--	--	--	0	--	0
2105 Fruit Packing	8.57	9.49	8.61	6.99	0.00147	50109.60	0.103846	2122508.4
2110 Pickle Manufacturing	13.77	17.12	19.68	12.31	0.00830	38313.78	0.230384	1060597.5
2111 Cannery NOC	7.86	6.11	5.31	5.81	0.00202	64422.70	0.044964	1433850.1
2112 Fruit Preserving	9.69	8.57	7.52	6.84	0.00003	315.5006	0.053941	630456.85
2114 Oystermen	5.85	6.16	6.49	7.22	0.00008	22.13372	0.053245	15191.309
2121 Brewery & Drivers	3.80	3.86	3.63	2.68	0.00141	4755.553	0.154213	518305.11

Revised Loss Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(DA2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
0005 FARM: Nursery Employers & Drivers	10.62	12.94	11.39	9.31	0.00278	187964.9	0.100483	6854528.4
0008 FARM: Gardening & Drivers	4.64	4.72	4.05	3.72	0.00035	3143.595	0.042471	386249.43
0016 FARM: Orchard & Drivers	9.87	10.72	8.99	8.14	0.00093	29785.21	0.049620	1591756.4
0034 FARM: Poultry Producer & Drivers	8.12	8.92	7.98	8.64	0.00050	3397.634	0.039711	271879.18
0035 FARM: Florist & Drivers	8.35	9.29	7.98	7.11	0.00110	17835.57	0.057654	932871.41
0036 FARM: Dairy & Drivers	14.95	15.99	13.72	11.49	0.00103	19025.21	0.088456	1640491.5
0037 FARM: Field Crops & Drivers	12.42	13.13	11.12	9.42	0.00090	57775.91	0.082765	5315393.1
0042 Landscape, Gardening & Drivers	14.23	18.02	16.19	14.48	0.00233	31355.03	0.055754	751472.40
0050 Farm Machinery Operation & Drivers	9.49	10.02	9.17	9.45	0.00023	1217.437	0.015037	80503.811
0079 FARM: Berry or Vineyard & Drivers	10.37	11.37	9.66	7.07	0.00229	21125.81	0.154811	1427991.7
0083 FARM: Cattle Raising NOC & Drivers	15.45	16.30	14.21	12.95	0.00053	13309.44	0.048391	1174985.1
0106 Tree Pruning & Drivers	20.64	22.38	19.88	16.52	0.00108	8848.840	0.087292	713308.85
0113 FARM: Fish Hatchery & Drivers	8.41	9.57	9.01	9.76	0.00037	193.9586	0.039957	20889.232
0116 Fruit Picking, On Ground	3.17	3.63	3.33	3.11	0.00086	1418.827	0.034161	58313.248
0117 FARM: Berry Picking	1.72	1.92	1.71	1.52	0.00100	2601.738	0.058823	152806.75
0124 Reforestation & Slash Piling & Drivers	20.43	26.50	27.07	29.32	0.00058	22842.10	0.039900	1549089.5
0169 FARM: Sheep Raising & Drivers	10.03	11.72	9.79	8.86	0.00171	3138.331	0.049865	91770.365
0170 FARM: Animal Raising & Drivers	6.87	6.99	6.76	6.23	0.00015	144.2451	0.040800	40121.410
0251 Irrigation Works Operation & Drivers	6.52	6.91	6.27	5.49	0.00060	1961.965	0.066326	216254.33
0917 Domestic Service Contractor - Inside	10.66	13.32	10.75	11.65	0.00295	3653.925	0.040178	49799.859
1005 Coal Mining - Surface & Drivers	8.42	7.84	--	--	--	0	--	0
1164 Mining NOC - Underground & Drivers	13.47	11.80	9.24	8.53	0.00031	42.90526	0.039954	5564.6778
1165 Mining NOC - Surface & Drivers	5.61	5.86	5.42	5.87	0.00026	192.7207	0.039858	29614.622
1320 Oil Lease Operator - All operations & Dri	7.17	7.29	6.08	4.84	0.00085	17.45813	0.113553	2334.9209
1322 Oil or Gas Well: Cleaning Old Wells & Dr	24.64	24.96	--	--	--	0	--	0
1430 Smelting - Lead & Drivers	16.61	17.23	15.63	12.21	0.00107	171.8937	0.122844	19649.537
1435 Smelting - Metals - Not Iron or Lead - NC	6.02	5.16	4.64	3.72	0.00005	1372.787	0.110047	3292393.7
1452 Ore Milling & Drivers	5.31	5.06	4.79	4.48	0.00000	0.086568	0.033441	933.35106
1463 Asphalt Workers & Drivers	9.82	9.38	9.08	8.42	0.00002	54.71505	0.037714	112982.13
1470 Coke Manufacturing & Drivers	9.87	10.69	--	--	--	0	--	0
1472 Distillation - Wood & Drivers	5.76	6.11	6.85	6.36	0.00049	1291.543	0.037093	97958.636
1624 Quarry NOC & Drivers	16.19	17.58	15.08	12.58	0.00120	22149.23	0.090383	1664129.9
1642 Lime Manufacturing	7.02	6.86	7.28	--	--	0	--	0
1654 Quarry - Cement Rock & Drivers	6.87	6.78	6.55	6.28	0.00001	0.135585	0.021044	308.28842
1655 Lime Mfg - Quarry - Surface & Drivers	11.64	12.57	10.03	--	--	0	--	0
1699 Rock Wool Manufacturing	3.90	4.16	4.14	3.40	0.00107	171.8394	0.098143	15804.978
1701 Cement Manufacturing	5.21	6.10	5.89	4.91	0.00180	552.1240	0.090740	27841.758
1710 Stone Crushing & Drivers	15.45	15.40	13.17	11.44	0.00035	1758.400	0.070296	357089.01
1741 Flint Grinding & Drivers	9.11	7.82	6.48	5.97	0.00022	0.274863	0.040963	50.932884
1747 Emery Works & Drivers	6.09	5.14	3.83	2.97	0.00011	20.86382	0.128470	24527.585
1748 Abrasive Wheel Manufacturing & Drivers	6.07	6.03	5.48	5.55	0.00012	31.99172	0.006348	1624.3521
1803 Stone Cutting NOC & Drivers	15.59	15.35	13.51	10.07	0.00086	425.1182	0.145886	72010.546
1852 Asbestos Goods Manufacturing	11.05	12.25	11.83	9.78	0.00131	670.8270	0.094863	48605.812
1880 Abrasive Paper or Cloth Preparation	--	--	--	--	--	0	--	0
1924 Wire Drawing - Not Iron or Steel	--	--	--	--	--	0	--	0
1925 Die Casting Manufacturing	11.00	9.23	8.43	8.18	0.00043	856.0199	0.015051	29816.425
2001 Cracker Manufacturing	8.90	9.33	9.05	8.54	0.00199	2414.241	0.161000	195300.35
2002 Macaroni Manufacturing	10.26	10.98	11.32	11.15	0.00010	17.97004	0.007565	1308.1931
2003 Bakery & Drivers, Route Supervisors	5.00	5.97	5.51	4.59	0.00192	38673.81	0.080292	1623485.6
2014 Grain Milling	8.51	8.45	7.48	7.88	0.00030	2568.856	0.026041	223369.04
2016 Breakfast Food Manufacturing	2.95	2.98	2.85	2.13	0.00126	93.51901	0.144578	10738.355
2021 Sugar Refining	3.62	3.87	4.27	4.06	0.00033	12.56910	0.025210	971.25392
2030 Sugar Manufacturing, Beet	12.40	9.86	--	--	--	0	--	0
2039 Ice Cream Manufacturing & Drivers	5.71	5.48	5.13	4.87	0.00001	10.50592	0.026	50473.481
2041 Confection Manufacturing	6.34	7.01	7.05	4.99	0.00306	2522.969	0.171096	141166.61
2065 Milk Products Manufacturing NOC	5.06	5.08	5.27	4.87	0.00018	9.218835	0.039447	2049.416
2070 Creamery & Route Supervisors, Drivers	6.67	7.63	6.96	6.22	0.00112	21835.32	0.056145	1096668.0
2086 Poultry Processors	--	--	--	--	--	0	--	0
2089 Packing House - All Operations	8.34	8.50	8.45	7.64	0.00023	1377.018	0.050341	300264.93
2095 Meat Products Manufacturing NOC	8.52	10.36	11.00	11.05	0.00049	4874.684	0.002267	22592.984
2101 Fish Curing	9.82	9.20	7.71	5.71	0.00046	68.64507	0.149031	22308.954
2104 Seafood Processors	--	--	--	--	--	0	--	0
2105 Fruit Packing	8.57	9.15	8.49	7.02	0.00095	19367.21	0.094777	1912408.9
2110 Pickle Manufacturing	13.77	16.76	18.50	13.02	0.00512	23264.29	0.173857	789806.96
2111 Cannery NOC	7.86	6.35	5.39	5.70	0.00026	8743.748	0.016393	550062.43
2112 Fruit Preserving	9.69	8.86	7.66	6.83	0.00001	119.4304	0.057280	671937.10
2114 Oystermen	5.85	6.06	6.08	6.61	0.00008	22.59131	0.041765	11396.938
2121 Brewery & Drivers	3.80	3.68	3.42	2.68	0.00055	1807.504	0.121311	396909.82

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
2130 Liquor, Spirituous, Distillery	11.76	10.75	10.22	8.04	0.00034	2.436797	0.119386	849.74950
2131 Liquor, Spirituous, Bottling	5.59	5.33	4.84	5.06	0.00023	105.3181	0.022222	9967.5842
2143 Fruit Juice Manufacturing	10.62	13.21	15.19	9.51	0.00832	36433.49	0.229959	1007594.6
2150 Ice Manufacturing	18.57	18.75	18.80	15.75	0.00059	136.2353	0.088277	20372.348
2156 Bottling-Not Carbntd Liq & Rt Spvsrs, Dri	8.32	8.26	7.85	6.41	0.00052	52.56491	0.100981	10112.900
2157 Bottling NOC & Rt Spvsrs, Drivers	8.50	8.08	7.83	6.02	0.00356	56378.18	0.130685	2070157.5
2211 Cotton Bealing Manufacturing	12.26	12.76	13.18	11.08	0.00082	180.7865	0.086562	19120.069
2220 Yarn Manufacturing - Cotton	5.09	5.10	--	--	--	0	--	0
2286 Wool Spinning & Weaving	6.08	6.10	5.80	6.46	0.00031	292.0389	0.053833	50947.657
2288 Felting Manufacturing	8.56	9.00	9.93	9.17	0.00044	38.95859	0.039790	3488.1279
2300 Plush Manufacturing	--	--	--	--	--	0	--	0
2302 Silk Thread or Yarn Manufacturing	--	--	--	--	--	0	--	0
2305 Textile Fiber Manufacturing	2.69	2.68	2.52	2.11	0.00040	1.550137	0.088552	338.93628
2361 Hosiery Manufacturing	3.10	3.22	--	--	--	0	--	0
2362 Knit Goods Manufacturing NOC	4.19	3.88	3.91	3.49	0.00014	199.8284	0.056756	79295.516
2380 Webbing Manufacturing	4.63	5.15	5.45	5.40	0.00019	6.443509	0.004608	153.98441
2386 Lace Manufacturing	--	--	--	--	--	0	--	0
2388 Embroidery Manufacturing	--	--	--	--	--	0	--	0
2402 Carpet Manufacturing NOC	7.46	7.96	7.88	6.86	0.00064	0.133238	0.069199	14.358942
2413 Textile Finishing	7.19	7.80	8.15	6.44	0.00172	382.0073	0.117203	25985.004
2416 Yarn Dyeing or Finishing	5.98	6.06	6.95	5.86	0.00118	2.041234	0.085089	148.63924
2417 Cloth Printing	--	--	--	--	--	0	--	0
2501 Clothing Manufacturing	5.40	5.40	4.86	4.85	0.00014	1515.514	0.001029	11484.236
2503 Dressmaking - Custom	1.45	1.43	1.35	1.32	0.00002	1.947113	0.011235	1069.6621
2534 Feather Manufacturing	4.43	4.01	4.07	3.17	0.00066	18.54236	0.124309	3513.8295
2570 Mattress Manufacturing	11.08	9.89	9.21	7.28	0.00021	600.2741	0.117040	337882.95
2576 Awning Manufacturing - Shop	6.50	7.83	8.26	7.23	0.00158	2873.894	0.068494	120674.19
2578 Bag Manufacturing - Cloth	9.53	9.41	8.37	5.71	0.00150	7391.622	0.188920	929861.20
2585 Laundry NOC & Rt Supervisors, Drivers	7.42	7.33	6.47	6.67	0.00024	3688.391	0.015220	231700.21
2586 Cleaning & Rt Supervisors, Drivers	3.71	4.61	4.85	5.28	0.00027	1349.717	0.042448	213494.26
2587 Towell Supply Co & Rt Supervisors, Driv	4.50	4.45	3.60	2.71	0.00088	120.3535	0.141045	19258.703
2600 Fur Manufacturing - Preparing Skins	--	--	--	--	--	0	--	0
2623 Tanning	9.06	8.94	8.52	8.99	0.00047	289.6334	0.098646	60553.695
2651 Shoe Stock Manufacturing	6.92	7.72	7.77	6.80	0.00092	761.0659	0.086575	54940.755
2660 Boot Manufacturing NOC	7.64	7.12	6.40	6.92	0.00047	1720.245	0.039039	141553.06
2670 Glove Manufacturing - Leather or Textile	2.87	3.24	3.59	3.60	0.00021	12.32210	0.001390	80.797222
2683 Luggage Manufacturing	--	--	--	--	--	0	--	0
2688 Leather Goods Manufacturing NOC	3.97	4.25	4.21	3.92	0.00030	173.0043	0.035670	20248.940
2697 Forest Patrollers	5.63	5.49	4.57	4.30	0.00027	410.5127	0.030439	46899.165
2702 Logging or Lumbering & Drivers	29.53	30.13	25.31	21.12	0.00067	392803.4	0.090243	52730831.
2703 Logging Equipment Mntnc & Repair	7.24	8.05	7.47	6.45	0.00103	17890.49	0.073275	1267867.9
2710 Saw Mill	12.20	11.37	9.85	8.95	0.00005	9929.221	0.047872	9805004.3
2714 Veneer Manufacturing	13.48	11.61	10.06	6.29	0.00071	20085.40	0.230581	6492010.2
2725 Logging: Mechanized Equip Operations	--	--	--	--	--	0	--	0
2731 Planing or Molding Mill	9.92	10.60	9.22	7.43	0.00120	143132.9	0.107507	12796829.
2735 Furniture Stock Manufacturing	9.23	10.05	10.46	9.54	0.00052	552.0575	0.046	49025.135
2741 Cooperage Stock Manufacturing	11.34	10.48	--	--	--	0	--	0
2747 Cooperage Assembly	5.98	7.16	--	--	--	0	--	0
2759 Box or Box Shook Manufacturing	14.55	15.05	14.68	12.08	0.00079	1965.421	0.097159	243118.39
2790 Pattern Making NOC	2.55	2.39	2.40	2.34	0.00006	61.98659	0.012658	13665.928
2802 Carpentry - Shop Only _ & Drivers	8.85	7.91	6.88	6.24	0.00003	2536.005	0.048780	4253485.9
2812 Cabinet Works - With Power Machinery	9.29	9.93	8.76	9.75	0.00058	18338.93	0.053484	1705378.0
2835 Brush or Broom Assembly	4.38	4.84	5.03	5.33	0.00004	83.32078	0.028957	87914.598
2836 Brush or Broom Manufacturing NOC	6.10	6.56	7.53	6.10	0.00190	252.5011	0.104915	13908.715
2841 Woodenware Manufacturing NOC	9.75	11.78	11.97	10.21	0.00188	7857.736	0.079350	331679.47
2881 Furniture Assembly - Wood	6.02	6.26	6.08	6.77	0.00021	818.3029	0.053896	207344.04
2883 Furniture Manufacturing - Wood - NOC	9.50	11.81	11.81	7.39	0.00704	138844.9	0.230208	4543079.1
2913 Rattan Products Manufacturing	7.31	6.56	--	--	--	0	--	0
2915 Veneer Products Manufacturing	6.02	7.48	6.77	6.38	0.00164	166921.6	0.029657	3016374.4
2916 Veneer Products Manufacturing - NO Ve	8.73	8.74	7.59	7.91	0.00034	15938.39	0.020645	968934.96
2923 Piano Manufacturing	4.67	4.39	4.36	3.38	0.00069	814.0245	0.126814	149562.10
2942 Pencil Manufacturing	5.06	5.73	--	--	--	0	--	0
2960 Wood Preserving & Drivers	8.85	10.13	9.63	8.74	0.00091	6247.849	0.048448	331487.54
3004 Iron or Steel:Mfg;SB Mfng-Elec Fnc or C	6.36	6.61	6.68	4.41	0.00309	22583.63	0.200252	1487806.0
3018 Iron or Steel: Mfg: Rolling Mill & Drivers	7.47	9.13	9.85	8.42	0.00202	15.58263	0.078270	602.79064
3022 Pipe Manufacturing NOC & Drivers	10.91	10.47	9.80	7.08	0.00080	322.7139	0.151079	61093.421
3027 Rolling Mill NOC & Drivers	3.04	3.52	3.20	2.25	0.00355	34746.21	0.174311	1704051.4
3028 Pipe or Tube Manufacturing - Iron or Stee	7.08	7.12	6.55	7.29	0.00039	920.8764	0.053468	126173.84

Revised Loss Development Method

1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
11.76	10.74	9.80	7.81	0.00027	1.883897	0.125789	876.43872
5.59	5.23	4.59	4.96	0.00054	239.2425	0.040752	17901.589
10.62	12.93	14.88	10.32	0.00572	25170.29	0.180301	793269.40
18.57	17.96	17.22	14.75	0.00021	48.54323	0.077259	16993.845
8.32	8.04	7.32	5.94	0.00035	33.42868	0.104072	10010.113
8.50	7.78	7.39	6.35	0.00178	27791.93	0.075691	1181714.2
12.26	12.47	12.32	10.45	0.00052	110.7884	0.082125	17484.871
5.09	4.99	--	--	--	0	--	0
6.08	5.94	5.45	5.49	0.00009	78.96398	0.003656	3250.7540
8.56	9.22	9.65	9.01	0.00034	30.02265	0.034297	2986.8770
--	--	--	--	--	0	--	0
--	--	--	--	--	0	--	0
2.69	2.62	2.37	1.98	0.00028	1.017496	0.089655	331.48789
3.10	3.15	--	--	--	0	--	0
4.19	3.87	3.72	3.23	0.00009	121.7183	0.070503	95572.449
4.63	5.04	5.12	5.50	0.00005	1.602147	0.035781	1175.9216
--	--	--	--	--	0	--	0
--	--	--	--	--	0	--	0
7.46	7.79	7.40	6.45	0.00049	0.097142	0.068592	13.732678
7.19	7.80	7.87	6.08	0.00182	395.5108	0.128315	27833.072
5.98	5.93	6.54	5.52	0.00087	1.439184	0.084577	140.59418
--	--	--	--	--	0	--	0
5.40	5.32	4.76	4.62	0.00010	1117.900	0.014925	162824.57
1.45	1.52	1.45	1.35	0.00024	23.27713	0.035714	3534.7720
4.43	3.92	3.83	2.94	0.00048	13.17709	0.131462	3583.3053
11.08	10.10	9.10	7.11	0.00022	622.6089	0.122783	353742.61
6.50	7.84	7.88	7.05	0.00138	2486.919	0.055592	99028.902
9.53	9.55	8.38	6.06	0.00122	6087.727	0.160684	802762.13
7.42	7.36	6.48	6.40	0.00017	2591.325	0.009211	93771.224
3.71	4.51	4.52	4.78	0.00041	1975.750	0.027956	133522.77
4.50	4.31	3.39	2.54	0.00085	85.52247	0.143338	18902.901
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9.06	8.72	7.99	6.54	0.00030	177.7238	0.099793	59084.418
6.92	7.35	7.15	6.43	0.00043	336.0124	0.053019	41716.591
7.64	7.29	6.39	6.43	0.00019	693.4797	0.003120	11180.416
2.87	3.05	3.22	3.27	0.00003	1.700000	0.007704	417.60988
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3.97	4.25	4.04	3.72	0.00038	211.2301	0.041237	22879.267
5.63	5.23	4.22	3.94	0.00026	378.4038	0.034313	50302.615
29.53	31.34	26.50	22.39	0.00095	576308.3	0.084066	50820707.
7.24	7.88	7.28	6.73	0.00049	8501.821	0.039257	876830.27
12.20	11.84	10.20	9.14	0.00008	15883.39	0.054808	11440281.
13.48	12.44	11.02	7.41	0.00092	27805.20	0.195878	5902185.0
--	--	--	--	--	0	--	0
9.92	10.39	9.33	7.87	0.00071	84952.78	0.084883	10196297.
9.23	9.84	9.72	9.03	0.00030	304.0243	0.0388	37762.334
11.34	10.26	--	--	--	0	--	0
5.98	7.01	--	--	--	0	--	0
14.55	14.49	13.59	11.68	0.00030	716.4051	0.076435	184236.36
2.55	2.29	2.20	2.13	0.00012	123.4490	0.016168	18533.711
8.85	8.09	7.17	6.32	0.00003	2941.773	0.083009	5598030.7
9.29	9.58	8.53	9.27	0.00040	12455.61	0.041573	1288330.2
4.38	4.59	4.58	4.98	0.00008	186.8209	0.041841	92888.080
6.10	6.24	6.84	5.52	0.00134	186.6146	0.106796	13301.746
9.75	11.49	11.20	9.89	0.00133	5369.081	0.062114	251437.26
6.02	6.01	5.64	6.13	0.00024	883.9812	0.041831	152247.33
9.50	11.58	11.09	7.78	0.00452	88012.76	0.175410	3412105.3
7.31	6.42	--	--	--	0	--	0
6.02	7.32	6.81	6.31	0.00139	140714.8	0.038109	3848355.6
8.73	8.70	7.71	7.18	0.00016	7178.406	0.035594	1634227.6
4.67	4.30	4.08	3.23	0.00033	380.1492	0.116279	133101.55
5.06	5.61	--	--	--	0	--	0
8.85	9.55	8.94	8.30	0.00042	2728.383	0.037122	242368.49
6.36	6.35	6.28	4.85	0.00104	7517.803	0.128481	932661.59
7.47	8.88	9.12	7.82	0.00166	12.22838	0.076741	564.23602
10.91	10.15	8.96	6.73	0.00041	161.5636	0.142128	55495.840
3.04	3.29	3.01	2.38	0.00142	13558.42	0.116883	1115043.9
7.08	6.84	6.15	6.89	0.00041	922.1534	0.042056	94713.211

	National Council Development Method							Revised Loss Development Method						
Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D*2)/ [Sm(y)]^2	Premium Wghted	TEST 2 /y4-y3)/ (y3+y4)	Premium Wghted	1989 Base	1990	1991	1992	TEST 1 Sum(D*2)/ [Sm(y)]^2	Premium Wghted	TEST 2 (y4-y3)/ (y3+y4)	Premium Wghted
3030 Iron or Steel; fab. I or S wks-shop struct	12.05	11.95	10.99	12.23	0.00041	4789.411	0.053402	621850.98	12.05	11.25	10.24	10.85	0.00034	3691.399	0.028923	316620.67
3040 Iron or Steel; fab. I works-Shop-Ornmnt	13.25	11.47	10.27	8.03	0.00010	968.2594	0.122404	1188859.4	13.25	11.94	10.45	8.58	0.00004	410.4880	0.098285	981035.56
3041 Iron or Steel; fab. I works-Shop-& Found	6.30	5.84	5.33	5.93	0.00077	1981.789	0.053285	137764.74	6.30	5.49	5.02	5.46	0.00082	2035.976	0.041984	104195.47
3042 Elevator Manufacturing	4.22	3.98	4.00	3.51	0.00018	0.907100	0.085246	322.66803	4.22	3.88	3.73	3.29	0.00006	0.291888	0.062878	298.32406
3064 Sign Manufacturing - Metal	8.25	8.24	8.19	6.58	0.00077	350.1455	0.109004	49365.780	8.25	7.75	7.38	5.99	0.00031	130.2981	0.100964	44236.319
3066 Sheet Metal Work - Shop	6.88	6.81	6.05	5.76	0.00012	2616.755	0.024555	526357.13	6.88	6.90	6.18	5.65	0.00018	3901.709	0.044801	984479.36
3076 Fireproof Equipment Manufacturing	5.30	4.40	3.96	4.05	0.00078	15639.94	0.011235	224718.01	5.30	4.67	4.13	3.85	0.00010	2017.840	0.035087	711280.87
3081 Foundry - Ferrous - NOC	12.12	11.28	10.61	7.86	0.00066	4275.626	0.148890	957832.67	12.12	11.64	10.63	8.05	0.00064	4187.175	0.138115	900814.84
3082 Foundry - Steel Castings	7.33	8.75	8.19	9.12	0.00059	4388.223	0.053726	397011.92	7.33	8.24	7.68	8.35	0.00038	2853.620	0.041796	292300.53
3085 Foundry - Nonferrous	12.38	10.84	10.26	7.14	0.00075	2484.687	0.179310	589681.90	12.38	10.83	9.87	7.31	0.00030	991.8696	0.149010	487262.73
3110 Forging Work	9.50	10.87	12.14	10.05	0.00195	3348.553	0.094186	162098.53	9.50	10.40	11.12	9.54	0.00107	1757.014	0.076476	125433.40
3111 Blacksmith	7.42	7.91	8.19	7.51	0.00038	722.2381	0.043312	81328.145	7.42	7.80	7.70	7.23	0.00020	383.7412	0.031480	57434.811
3113 Tool Mfg, Not Drop or Mach Forged - NC	4.08	3.57	3.35	3.11	0.00012	341.5271	0.037151	109689.23	4.08	3.59	3.25	2.99	0.00007	202.6276	0.041666	121275.80
3114 Tool Mfg, Drop/Mach Forged-NOC: Mact	5.56	5.52	5.72	5.28	0.00016	91.45738	0.04	22856.448	5.56	5.29	5.23	4.90	0.00003	15.18619	0.032576	17532.454
3118 Saw Manufacturing	5.43	6.59	6.17	6.87	0.00068	3861.864	0.053680	311908.46	5.43	6.07	5.53	6.01	0.00047	2499.739	0.041594	222199.74
3122 Cutlery Manufacturing NOC	5.55	6.61	6.82	6.60	0.00084	1019.613	0.016393	28139.321	5.55	6.31	6.28	6.17	0.00038	539.6018	0.007240	10982.825
3126 Tool Mfg	6.67	6.99	7.20	5.86	0.00111	79.74565	0.102803	7370.5250	6.67	6.93	6.83	5.47	0.00104	72.30761	0.110569	7698.9927
3131 Button Manufacturing - Metal	4.58	4.41	4.20	3.49	0.00030	0.135029	0.092327	41.549901	4.58	4.32	3.95	3.28	0.00017	0.073312	0.092669	40.328569
3132 Nut Manufacturing	6.26	6.40	6.22	5.02	0.00083	507.6486	0.106761	65394.916	6.26	6.12	5.71	4.72	0.00036	208.3463	0.094918	55489.054
3145 Screw Manufacturing	4.04	4.47	4.53	4.70	0.00009	107.6292	0.018418	21951.318	4.04	4.34	4.22	4.44	0.00010	120.1725	0.025404	29982.662
3146 Hardware Manufacturing NOC	4.88	5.28	4.97	4.30	0.00077	3170.418	0.072276	295906.31	4.88	5.16	4.69	4.15	0.00044	1758.667	0.061085	242240.90
3169 Stove Manufacturing	12.69	11.91	10.76	10.80	0.00014	309.7578	0.001855	4225.6808	12.69	12.16	10.70	10.42	0.00011	255.7064	0.013257	30071.720
3175 Radiator Manufacturing	7.68	9.55	--	--	--	0	--	0	7.68	9.35	--	--	--	0	--	0
3179 Electrical Apparatus Manufacturing NOC	3.59	3.77	3.47	2.75	0.00110	10828.38	0.115755	1140497.2	3.59	3.74	3.41	2.80	0.00080	7844.671	0.098228	964959.89
3180 Electric Light Fixtures Manufacturing	5.93	6.31	6.42	5.21	0.00121	651.1438	0.104041	56174.070	5.93	6.02	5.87	4.81	0.00069	352.9019	0.099250	50803.891
3188 Plumbers' Supplies Manufacturing NOC	5.26	5.24	5.01	4.32	0.00029	27,69702	0.073954	6982.7818	5.26	5.01	4.57	3.94	0.00010	9.152714	0.074030	6819.8003
3220 Can Manufacturing	4.41	4.08	4.02	4.45	0.00051	1945.380	0.050767	193488.88	4.41	4.01	3.80	4.09	0.00047	1706.149	0.038755	134716.28
3223 Lamp or Portable Lantern Mfg	7.57	7.79	8.35	7.12	0.00079	8,152693	0.079508	818.79238	7.57	7.63	7.85	6.67	0.00057	5.887950	0.081267	806.76988
3224 Agate Ware Manufacturing	7.17	7.78	8.92	7.24	0.00193	2.104160	0.103980	113.09218	7.17	7.59	8.40	6.81	0.00156	1.633602	0.104538	109.62222
3227 Aluminum Ware Manufacturing	7.07	7.15	6.55	6.10	0.00014	6.584059	0.035573	1610.8738	7.07	7.00	6.14	6.07	0.00018	8.003441	0.005733	253.87835
3240 Wire Rope Mfg - Iron or Steel	--	--	--	--	--	0	--	0	--	--	--	--	--	0	--	0
3241 Wire Drawing - Iron or Steel	8.00	8.42	--	--	--	0	--	0	8.00	8.24	--	--	--	0	--	0
3255 Wire Cloth Manufacturing	9.37	9.79	9.62	6.93	0.00204	1734.129	0.162537	138018.02	9.37	9.68	9.26	6.84	0.00185	1533.713	0.164779	136942.01
3257 Wire Goods Manufacturing NOC	5.90	6.16	6.07	4.52	0.00172	7982.830	0.146364	680668.38	5.90	6.02	5.74	4.47	0.00102	4642.945	0.124387	565185.52
3300 Bed Spring Manufacturing	11.57	11.52	11.63	9.39	0.00030	214.2668	0.106565	28698.369	11.57	11.70	11.25	8.87	0.00008	233.9084	0.118290	31265.114
3303 Spring Manufacturing	9.61	8.38	8.67	6.76	0.00072	436.8598	0.123784	74794.418	9.61	8.04	7.91	6.24	0.00044	253.8686	0.118021	67855.093
3307 Heat-Treating	7.49	7.72	7.46	6.72	0.00027	258.1823	0.052186	49475.304	7.49	7.38	6.89	6.33	0.00007	63.65412	0.042360	38383.248
3315 Brass Goods Manufacturing	6.09	5.90	--	--	--	0	--	0	6.09	5.77	--	--	--	0	--	0
3334 Tin Foil Manufacturing	2.58	2.97	--	--	--	0	--	0	2.58	2.91	--	--	--	0	--	0
3336 Type Foundry	6.07	4.72	4.18	3.17	0.00033	9753.008	0.135081	4048868.0	6.07	5.16	4.41	3.45	0.00002	647.3794	0.122137	3857436.8
3365 Welding NOC & Drivers	16.57	15.90	15.25	16.50	0.00027	1166.378	0.039370	172431.91	16.57	16.05	14.68	15.77	0.00031	1332.896	0.036477	156850.95
3372 Electroplating	8.85	9.34	8.88	7.54	0.00058	4015.186	0.070283	486607.48	8.85	9.29	8.46	7.30	0.00060	4060.792	0.073604	502043.76
3373 Galvanizing	12.45	13.66	15.59	12.48	0.00215	3811.421	0.110794	185716.01	12.45	13.65	14.70	12.18	0.00144	2361.764	0.09375	153865.22
3383 Jewelry Manufacturing	2.89	3.59	3.73	3.08	0.00259	2769.022	0.095447	101864.11	2.89	3.51	3.44	2.93	0.00196	2027.060	0.080082	82101.601
3385 Watch Manufacturing	2.06	2.47	2.58	2.23	0.00167	188.5555	0.072785	8128.7728	2.06	2.50	2.51	2.20	0.00164	182.2226	0.065817	7297.5262
3400 Metal Goods Manufacturing NOC	7.85	8.08	7.75	8.00	0.00006	333.8427	0.015873	81719.218	7.85	7.71	7.23	7.31	0.00006	283.9872	0.005502	26913.591
3507 Agriculture or Construction Machinery Mf	8.55	9.04	7.83	5.54	0.00204	112694.8	0.171278	9481583.7	8.55	9.03	7.93	6.34	0.00111	63472.69	0.111422	6345391.8
3548 Printing Machine Manufacturing	2.92	3.26	3.38	2.98	0.00090	390.7320	0.062893	27329.242	2.92	3.17	3.15	2.84	0.00054	224.9505	0.051752	21683.517
3559 Confection Machine Manufacturing	6.18	6.79	6.93	5.90	0.00107	0.994287	0.080280	74.506812	6.18	6.65	6.51	5.54	0.00087	0.774593	0.060497	72.042423
3565 Typewriter Manufacturing	0.86	1.08	--	--	--	0	--	0	0.86	1.04	--	--	--	0	--	0
3574 Computing, Recording, Office Machine N	1.80	1.76	1.66	1.28	0.00074	1067.558	0.129251	186136.67	1.80	1.74	1.59	1.26	0.00046	645.9431	0.115789	163927.66
3812 Pump Manufacturing	4.08	4.55	4.05	3.44	0.00126	9464.291	0.081441	609572.06	4.08	4.43	3.97	3.48	0.00084	6227.170	0.088640	508021.02
3620 Boilermaking	7.43	9.24	10.08	7.19	0.00512	43882.18	0.167342	1432902.1	7.43	9.04	9.11	7.45	0.00245	20432.39	0.100241	835325.04
3629 Precision Machines Parts MFG, NOC	3.54	3.80	3.60	2.99	0.00098	4202.823	0.092564	398678.19	3.54	3.76	3.48	2.86	0.00096	4027.844	0.097791	412423.82
3632 Machine Shop NOC	4.56	4.62	4.04	4.07	0.00026	14100.74	0.003899	199018.45	4.56	4.57	4.07	3.92	0.00015	7884.674	0.018773	1000108.3
3634 Valve Manufacturing	4.38	4.77	4.83	4.17	0.00086	2531.399	0.073333	215911.70	4.38	4.77	4.83	3.90	0.00100	2878.996	0.085580	245445.01
3635 Gear Manufacturing or Grinding	3.74	4.40	4.56	3.49	0.00296	4756.040	0.132919	213844.60	3.74	4.34	4.31	3.41	0.00228	3555.878	0.116580	183039.93
3636 Ball Bearing Manufacturing	3.81	3.99	--	--	--	0	--	0	3.81	3.91	--	--	--	0	--	0
3642 Battery Manufacturing - Dry	--	--	--	--	--	0	--	0	--	--	--	--	--	0	--	0
3643 Electric Power Equipment Manufacturing	4.78	4.33	3.87	3.89	0.00024	1442.986	0.002577	15743.384	4.78	4.34	3.80	3.84	0.00011	680.4456	0.021505	128950.06
3647 Battery Manufacturing - Storage	4.98	5.03	4.52	4.48	0.00015	795.4997	0.004444	23200.998	4.98	4.89	4.34	4.21	0.00012	583.1983	0.015204	76908.429
3648 Auto Lighting, Ign or Strt Apparatus Mfg	8.49	7.13	6.49	5.87	0.00021	663.8021	0.050161	181462.95	8.49	7.40	6.46	5.74	0.00004	141.1697	0.059018	190711.27
3681 Television/Radio/Telephone/Telecommu	1.94	2.38	2.10	2.34	0.00113	24551.73	0.054054	1172192.2	1.94	2.33	2.12	2.29	0.00080	17148.11	0.038548	828316.91
3685 Instrument Manufacturing NOC	1.68	2.02	1.84	1.98	0.00080	6792.711	0.036849	310911.72	1.68	1.95	1.78	1.83	0.00065	5279.094	0.013850	113124.31
3719 Oil Still Erection or Repair	13.73	12.03	11.93	10.11	0.00011	15.37658	0.082577	11639.436	13.73	12.91	11.22	9.37	0.00013	17.82710	0.089849	12302.419
3724 Machinery/Equip Erection/Repair NOC &	11.33	9.84	9.56	9.58	0.00116	61699.93	0.056229	2989298.0	11.33	10.47	9.09	10.18	0.00083	46022.58	0.056564	3141758.3
3726 Boiler Installation or Repair	13.46	12.46	12.75	14.28	0.00057	3876.693	0.056603	384436.79	13.46	12.70	12.19	13.65	0.00051	3464.038	0.056501	376856.62
3803 Automobile Wheel Manufacturing	--	--	--	--	--	0	--	0	--	--	--	--	--	0	--	0

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 (y4-y3)/ (y3-y4)	Premium Wghted
3807 Automobile Radiator Manufacturing	5.43	5.59	5.64	4.66	0.00081	30.96618	0.095145	3646.9068
3808 Automobile Manufacturing or Assembly	5.68	6.12	6.02	6.58	0.00013	757.3481	0.044444	265075.60
3821 Automobile Dismantling & Drivers	7.15	8.18	7.26	6.44	0.00126	8871.029	0.059854	419861.46
3822 Auto, Bus, Truck or Tlr Body Mfg: Die Pr	10.59	9.17	13.50	10.61	0.00328	281.8504	0.119867	10285.103
3824 Auto, Bus, Truck or Tlr Body Mfg: NOC	8.73	10.55	9.67	7.86	0.00255	27654.26	0.103251	1121145.0
3826 Aircraft Engine Manufacturing	..	..	..	..	..	0	..	0
3830 Airplane Manufacturing	3.57	2.58	2.54	3.04	0.00078	5815.488	0.109176	818545.64
3851 Motorcycle Manufacturing or Assembly	4.13	4.45	4.25	..	..	0	..	0
3865 Baby Carriage Manufacturing	8.16	8.32	..	..	..	0	..	0
4000 Sand Digging & Drivers	10.38	13.07	12.06	7.81	0.00642	85408.45	0.213890	2844647.4
4021 Brick Manufacturing NOC & Drivers	10.73	10.52	9.60	7.72	0.00047	305.4838	0.108545	70434.008
4024 Refractory Products Manufacturing & Dri	15.23	16.35	13.87	11.98	0.00095	895.0821	0.073114	68678.514
4034 Concrete Products Manufacturing & Driv	10.96	10.65	9.51	9.04	0.00007	679.5055	0.025336	233535.28
4036 Plasterboard Manufacturing & Drivers	6.04	5.60	6.71	6.28	0.00007	113.6570	0.023192	10069.904
4038 Plaster Statuary Manufacturing	3.91	4.72	5.42	4.29	0.00324	1092.053	0.116374	39259.595
4053 Pottery Mfg: China or Tableware	5.40	5.88	5.39	4.54	0.00102	91.05096	0.085599	7608.4264
4061 Pottery Mfg: Earthenware - Hand molded	9.36	9.76	9.41	9.70	0.00007	61.48533	0.015175	13887.601
4062 Pottery Mfg: Porcelain Ware - Press For	6.26	5.80	5.22	4.35	0.00009	0.224806	0.090909	219.95743
4101 Glass Manufacturing - Polished Plate - &	4.96	4.93	4.17	4.64	0.00073	209.4179	0.053348	15345.983
4111 Glassware Mfg - No Automatic Blowing M	6.12	6.29	5.44	4.85	0.00044	1395.313	0.057337	182153.31
4112 Incandescent Lamp Manufacturing	1.70	1.96	2.24	2.07	0.00089	440.2468	0.039443	19439.166
4113 Glass Manufacturing - Cut	4.69	3.96	4.28	4.41	0.00087	16.02262	0.014959	275.30811
4114 Glassware Manufacturing NOC	6.10	6.51	6.55	5.95	0.00004	12.79147	0.029629	9688.0787
4130 Glass Merchant	8.67	10.11	9.95	6.22	0.00563	30600.27	0.230674	1253907.6
4131 Mirror Manufacturing	9.20	10.21	9.75	7.94	0.00144	233.0736	0.102317	16504.265
4133 Cathedral Window Manufacturing	5.85	6.63	7.45	8.29	0.00000	0.829345	0.053367	38312.137
4150 Optical Goods Manufacturing NOC	1.87	2.05	2.02	1.66	0.00127	7422.187	0.097826	569662.96
4206 Pulp Manufacturing - Ground Wood	4.99	4.25	4.88	5.31	0.00123	1121.138	0.042198	38371.390
4207 Pulp Manufacturing - Chemical	3.83	3.06	2.55	1.75	0.00012	210.4838	0.186048	319441.75
4239 Paper Manufacturing	5.74	4.46	3.36	2.51	0.00018	2164.202	0.144804	1741557.7
4240 Box Manufacturing - Set-Up Paper	7.35	6.88	7.30	7.16	0.00016	116.5186	0.009681	7016.0448
4243 Box Manufacturing - Folding Paper - NO	6.40	6.81	6.51	5.40	0.00074	3173.327	0.093198	399181.05
4244 Corrugated Container Manufacturing	9.37	8.97	8.54	6.79	0.00048	1661.052	0.114155	394945.72
4250 Paper Coating	3.45	3.31	3.26	3.61	0.00035	810.5006	0.050948	118326.05
4251 Stationery Manufacturing	5.66	5.08	4.81	4.61	0.00010	475.1825	0.021231	105191.05
4263 Fiber Goods Manufacturing	9.75	10.01	9.46	7.96	0.00016	16.87525	0.086107	2590.5837
4273 Bag Manufacturing - Paper	8.89	9.80	9.33	6.15	0.00366	12712.27	0.205428	713992.44
4279 Paper Goods Manufacturing - NOC	6.44	6.33	6.14	6.37	0.00006	143.6092	0.018385	40757.419
4282 Dress Pattern Mfg - Paper	..	..	..	..	..	0	..	0
4283 Building/Roofing Paper/Felt Prep - No In	9.44	9.70	8.32	6.25	0.00123	5604.769	0.142072	645252.35
4299 Printing	3.48	3.40	3.00	2.79	0.00011	3134.314	0.038269	1059134.7
4301 Wallpaper Manufacturing	5.57	8.36	..	..	..	0	..	0
4304 Newspaper Publishing	3.74	4.42	4.04	4.49	0.00089	7272.511	0.052754	557113.94
4307 Bookbinding	5.35	4.99	4.56	4.56	0.00012	267.1453	0	0
4308 Linotype or Hand Composition	1.72	1.59	1.82	1.89	0.00056	4.921341	0.037037	327.07962
4312 News Carriers or Route Carriers	6.46	7.15	6.40	7.02	0.00054	1864.175	0.046199	158887.62
4350 Electrotyping	1.89	1.89	2.17	2.27	0.00019	0.154350	0.022522	17.958108
4351 Photoengraving	1.26	1.18	1.13	1.10	0.00003	19.52474	0.013452	9092.7425
4352 Engraving	1.97	2.32	2.58	2.76	0.00006	6.895478	0.037593	4078.4153
4360 Motion Picture: Dev. of Negtvs & all Subs	1.36	1.30	1.38	1.32	0.00014	11.52816	0.022222	1877.5464
4361 Photographer - All Empl & Cler. Slspers	2.09	2.77	2.71	1.79	0.00731	52229.00	0.204444	1460059.2
4362 Motion Picture: Film Exchange & Clerical	1.47	1.52	1.31	1.12	0.00062	6.894187	0.078189	864.37513
4410 Rubber Goods Manufacturing NOC	6.06	6.79	6.66	7.05	0.00018	974.5970	0.028448	157567.48
4417 Boot Manufacturing - Rubber	6.95	7.22	..	..	..	0	..	0
4420 Rubber Tire Manufacturing	7.98	8.73	8.80	9.80	0.00012	22.49057	0.053763	10380.703
4431 Phonograph Record Manufacturing	2.23	2.29	..	..	..	0	..	0
4439 Lacquer Manufacturing	4.94	4.86	5.02	4.17	0.00063	213.4045	0.092491	31446.803
4452 Plastics Manufacturing: Fabricated Prod	11.15	10.06	8.98	6.57	0.00009	2593.499	0.154983	1033832.8
4459 Plastics Manufacturing: Sheets, Rods or	5.55	6.63	6.65	7.41	0.00027	1009.833	0.054054	200302.75
4470 Cable Manufacturing - Insulated Electric	6.98	9.06	8.08	5.94	0.00318	929.2502	0.152839	44587.827
4484 Plastics Manufacturing: Molded Products	6.44	6.52	5.78	6.26	0.00040	8703.884	0.039867	874208.76
4493 Fabric Coating or Impregnating NOC	..	..	..	..	..	0	..	0
4511 Chemist, Analytical	1.69	2.06	1.92	1.51	0.00301	18804.32	0.119533	747688.50
4557 Ink Manufacturing	4.66	4.32	4.30	3.48	0.00043	615.2825	0.105398	151397.63
4558 Paint Manufacturing	4.48	4.96	4.70	3.87	0.00133	3581.558	0.096849	261368.89
4561 Varnish Manufacturing - Oleo-Resinous	4.69	3.65	..	..	..	0	..	0
4583 Fertilizer Manufacturing & Drivers	5.55	6.23	6.10	6.79	0.00022	513.2230	0.053529	125838.53
4611 Drug Preparation	2.75	3.07	3.09	2.94	0.00040	493.4484	0.024875	30741.275

Revised Loss Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 (y4-y3)/ (y3-y4)	Premium Wghted
3807 Automobile Radiator Manufacturing	5.43	5.35	5.14	4.26	0.00043	15.55327	0.093617	3396.4451
3808 Automobile Manufacturing or Assembly	5.68	5.89	5.64	5.97	0.00011	508.2390	0.028429	161048.84
3821 Automobile Dismantling & Drivers	7.15	7.83	6.79	6.23	0.00080	5405.793	0.043010	291005.21
3822 Auto, Bus, Truck or Tlr Body Mfg: Die Pr	10.59	12.64	12.44	9.84	0.00287	232.8787	0.126811	10299.061
3824 Auto, Bus, Truck or Tlr Body Mfg: NOC	8.73	10.12	9.23	7.68	0.00179	18907.72	0.091861	966907.50
3826 Aircraft Engine Manufacturing	..	..	..	..	..	0	..	0
3830 Airplane Manufacturing	2.57	2.52	2.37	2.03	0.00024	1740.129	0.077272	565090.47
3851 Motorcycle Manufacturing or Assembly	4.13	4.38	3.99	..	..	0	..	0
3865 Baby Carriage Manufacturing	8.16	8.14	..	..	..	0	..	0
4000 Sand Digging & Drivers	10.38	11.26	9.90	8.41	0.00102	12501.85	0.081376	998076.08
4021 Brick Manufacturing NOC & Drivers	10.73	10.16	8.94	7.18	0.00026	161.2052	0.109181	67981.308
4024 Refractory Products Manufacturing & Dri	15.23	15.90	13.29	11.32	0.00081	738.7364	0.080048	72979.754
4034 Concrete Products Manufacturing & Driv	10.96	10.66	9.51	8.93	0.00008	689.9101	0.031453	289189.74
4036 Plasterboard Manufacturing & Drivers	6.04	6.77	6.63	6.15	0.00058	176.2831	0.037558	11407.700
4038 Plaster Statuary Manufacturing	3.91	4.68	5.12	4.03	0.00298	971.4844	0.119126	38872.842
4053 Pottery Mfg: China or Tableware	5.40	5.87	4.96	4.17	0.00079	66.67745	0.086527	7324.7394
4061 Pottery Mfg: Earthenware - Hand molded	9.36	9.44	8.75	9.22	0.00017	143.9008	0.026154	22689.720
4062 Pottery Mfg: Porcelain Ware - Press For	6.26	5.86	4.90	4.07	0.00004	0.089605	0.092530	216.42852
4101 Glass Manufacturing - Polished Plate - &	4.96	4.73	3.83	4.16	0.00083	225.2583	0.041301	11232.607
4111 Glassware Mfg - No Automatic Blowing M	6.12	6.20	5.35	4.69	0.00040	1249.415	0.065737	205710.58
4112 Incandescent Lamp Manufacturing	1.70	1.93	2.11	1.96	0.00067	321.7949	0.036855	17570.350
4113 Glass Manufacturing - Cut	4.69	4.00	4.15	4.47	0.00093	17.01238	0.037122	882.00275
4114 Glassware Manufacturing NOC	6.10	6.48	6.23	6.77	0.00018	52.49039	0.041538	13306.244
4130 Glass Merchant	8.67	10.10	9.71	6.83	0.00416	22690.53	0.188494	1029316.7
4131 Mirror Manufacturing	9.20	10.76	10.04	8.01	0.00226	373.9365	0.112485	18586.099
4133 Cathedral Window Manufacturing	5.85	6.66	7.06	7.87	0.00004	27.28839	0.041412	28697.165
4150 Optical Goods Manufacturing NOC	1.87	2.02	1.94	1.63	0.00095	5433.335	0.088834	496343.12
4206 Pulp Manufacturing - Ground Wood	4.99	4.19	4.71	4.97	0.00114	1008.758	0.026859	23707.193
4207 Pulp Manufacturing - Chemical	3.83	3.23	2.65	1.75	0.00022	378.6472	0.204545	359678.52
4239 Paper Manufacturing	5.74	4.46	3.74	2.73	0.00020	2440.085	0.158106	1947573.5
4240 Box Manufacturing - Set-Up Paper	7.35	6.58	6.66	6.38	0.00018	124.7737	0.021472	14827.275
4243 Box Manufacturing - Folding Paper - NO	6.40	6.20	5.84	5.10	0.00014	549.9389	0.067841	273672.72
4244 Corrugated Container Manufacturing	9.37	8.96	8.25	6.39	0.00052	1768.475	0.127049	434776.05
4250 Paper Coating	3.45	3.17	3.04	3.23	0.00034	748.1581	0.030303	68555.827
4251 Stationery Manufacturing	5.66	4.96	4.53	4.38	0.00020	951.7021	0.018835	84902.534
4263 Fiber Goods Manufacturing	9.75	9.74	8.87	7.40	0.00042	12.13498	0.090350	2614.4023
4273 Bag Manufacturing - Paper	8.89	9.88	9.22	6.51	0.00288	10114.18	0.172282	604577.72
4279 Paper Goods Manufacturing - NOC	6.44	6.13	5.71	5.88	0.00014	297.9924	0.014687	31075.741
4282 Dress Pattern Mfg - Paper	..	..	..	..	..	0	..	0
4283 Building/Roofing Paper/Felt Prep - No In	9.44	9.54	8.20	6.66	0.00065	2983.141	0.103633	472489.67
4299 Printing	3.48	3.45	3.07	2.86	0.00026	7504.284	0.071553	2087838.0
4301 Wallpaper Manufacturing	5.57	8.22	..	..	..	0	..	0
4304 Newspaper Publishing	3.74	4.25	3.94	4.06	0.00045	4598.158	0.015	151762.31
4307 Bookbinding	5.35	4.93	4.36	4.24	0.00011	248.3686	0.013953	30502.036
4308 Linotype or Hand Composition	1.72	1.59	1.82	1.77	0.00046	4.140848	0.013927	124.43928
4312 News Carriers or Route Carriers	6.46	6.90	5.87	6.36	0.00068	2225.834	0.040065	130450.20
4350 Electrotyping	1.89	1.83	2.10	2.13	0.00029	0.222916	0.007092	5.4691489
4351 Photoengraving	1.26	1.14	1.04	1.03	0.00016	105.8770	0.004830	3125.3510
4352 Engraving	1.97	2.21	2.32	2.52	0.00003	3.529330	0.041322	4207.6622
4360 Motion Picture: Dev. of Negtvs & all Subs	1.36	1.25	1.28	1.25	0.00014	11.04023	0.011857	980.73304
4361 Photographer - All Empl & Cler. Slspers	2.09	2.70	2.57	1.91	0.00472	33369.94	0.147321	1041993.4
4362 Motion Picture: Film Exchange & Clerical	1.47	1.48	1.25	1.04	0.00056	6.025530	0.091703	980.10081
4410 Rubber Goods Manufacturing NOC	6.06	6.56	6.25	6.30	0.00019	986.5759	0.003984	20913.218
4417 Boot Manufacturing - Rubber	6.95	7.07	..	..	..	0	..	0
4420 Rubber Tire Manufacturing	7.98	9.18	9.06	9.85	0.00022	44.06523	0.041776	8239.9336
4431 Phonograph Record Manufacturing	2.23	2.24	..	..	..	0	..	0
4439 Lacquer Manufacturing	4.94	4.76	4.59	3.87	0.00027	87.33090	0.085106	27871.079
4452 Plastics Manufacturing: Fabricated Prod	11.15	10.27	9.00	7.00	0.00023	1546.788	0.125	848790.36
4459 Plastics Manufacturing: Sheets, Rods or	5.55	6.48	6.25	6.79	0.00036	1263.315	0.041411	146610.58
4470 Cable Manufacturing - Insulated Electric	6.98	8.10	7.86	5.78	0.00318	912.2057	0.152492	44023.524
4484 Plastics Manufacturing: Molded Products	6.44	6.49	5.74	6.06	0.00032	6847.890	0.027118	588237.19
4493 Fabric Coating or Impregnating NOC	..	..	..	..	..	0	..	0
4511 Chemist, Analytical	1.69	1.93	1.77	1.52	0.00138	8173.432	0.075987	457434.24
4557 Ink Manufacturing	4.66	4.20	4.01	3.28	0.00020	270.8094	0.100137	138604.93
4558 Paint Manufacturing	4.48	4.85	4.50	3.85	0.00086	2279.206	0.077844	206230.10
4561 Varnish Manufacturing - Oleo-Resinous	4.69	3.85	..	..	..	0	..	0
4583 Fertilizer Manufacturing & Drivers	5.55	5.92	5.65	6.15	0.00019	424.9629	0.042372	93957.772
4611 Drug Preparation	2.75	3.03	2.92	2.81	0.00034	413.4326	0.019197	23043.210

	National Council Development Method							Revised Loss Development Method						
Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D*2)/ [Sm(y)]^2	Premium Wghted	TEST 2 [y4-y3]/ (y3+y4)	Premium Wghted	1989 Base	1990	1991	1992	TEST 1 Sum(D*2)/ [Sm(y)]^2	Premium Wghted	TEST 2 [y4-y3]/ (y3+y4)	Premium Wghted
4635 Oxygen Manufacturing & Drivers	5.13	5.80	5.54	4.68	0.00102	2610.049	0.084148	216200.17	5.13	5.31	4.97	4.53	0.00026	845.2939	0.046315	113260.56
4653 Glue Manufacturing & Drivers	5.32	5.01	4.54	3.75	0.00017	179.0105	0.095295	100448.38	5.32	4.73	4.17	3.46	0.00002	16.71394	0.093653	93133.685
4665 Rendering Works NOC & Drivers	15.31	15.66	15.65	13.87	0.00034	824.9434	0.060298	147540.09	15.31	15.43	14.81	13.48	0.00015	360.2181	0.047013	112257.22
4670 Cottonseed Oil Manufacturing - Mechanl	14.31	15.38	--	--	--	0	--	0	14.31	15.05	--	--	--	0	--	0
4683 Oil Manufacturing - Vegetable - NOC	4.69	4.41	4.66	3.85	0.00063	258.4892	0.095182	38803.145	4.69	4.24	4.30	3.57	0.00037	143.4476	0.092757	36075.265
4686 Oil Manufacturing - Vegetable - Solvent I	4.86	5.49	--	--	--	0	--	0	4.86	5.37	--	--	--	0	--	0
4692 Dental Laboratory	1.13	1.20	1.25	0.95	0.00193	1380.134	0.136363	97354.059	1.13	1.18	1.17	0.90	0.00144	993.0983	0.130434	90037.788
4693 Pharmaceutical Goods Manufacturing NK	2.71	3.03	3.01	2.42	0.00168	1212.338	0.108855	78387.407	2.71	3.07	2.95	2.35	0.00188	1343.023	0.113207	81013.255
4703 Corn Products Manufacturing	5.44	5.34	5.23	4.42	0.00036	30.46103	0.083937	7122.6283	5.44	5.18	4.85	4.05	0.00021	17.21404	0.089887	7287.7591
4717 Butter Substitute Manufacturing	6.83	8.49	9.54	8.08	0.00244	3142.954	0.084090	108115.89	6.83	8.31	8.86	7.83	0.00160	1961.027	0.063228	77614.057
4720 Soap Manufacturing	4.63	5.07	5.20	3.88	0.00244	1886.720	0.147902	114278.50	4.63	5.26	5.18	3.85	0.00272	2122.411	0.147286	114773.10
4740 Oil Refining & Drivers	4.64	4.63	4.42	4.85	0.000324	97.66172	0.046386	18648.588	4.64	4.63	4.25	4.82	0.00030	118.1159	0.041713	16406.514
4741 Asphalt Distilling or Refining & Drivers	9.91	10.72	9.76	7.84	0.00150	1279.819	0.121839	104175.18	9.91	10.60	9.44	7.57	0.00121	1020.704	0.109935	92736.867
4751 Rubber Manufacturing - Synthetic	6.68	6.95	5.91	5.04	0.00072	193.0710	0.079452	21334.194	6.68	6.80	5.54	4.90	0.00060	157.2864	0.061302	16018.796
4773 Explosives or Ammun Mfg: High Explsvs	12.79	13.34	13.61	13.98	0.00001	0.698120	0.013410	1783.5748	12.79	12.92	12.42	12.40	0.00003	3.257029	0.000805	99.674802
4775 Explosives or Ammun Mfg: Shell Case Lo	28.20	29.87	--	--	--	0	--	0	28.20	29.23	--	--	--	0	--	0
4777 Explosives Distributors & Drivers	8.02	8.09	7.62	7.97	0.00011	28.15195	0.022450	5686.5773	8.02	7.76	6.96	7.36	0.00029	68.85158	0.027932	6894.5763
4825 Drug, Medicine, or Pharmaceutical Prep	--	--	--	--	--	0	--	0	--	--	--	--	--	0	--	0
4902 Sporting Goods Manufacturing NOC	4.07	4.73	4.69	5.22	0.00024	1095.849	0.053481	241738.87	4.07	4.55	4.30	4.88	0.00031	1303.736	0.042318	179924.54
4923 Photographic Supplies Manufacturing	3.18	3.02	2.96	3.29	0.00041	812.6390	0.0528	103545.78	3.18	2.99	2.81	3.05	0.00038	715.3106	0.040955	77608.340
5020 Ceiling Install, Suspended Accoustcl Ce	11.76	10.03	9.90	9.78	0.00044	1385.535	0.007121	22257.028	11.76	9.80	9.05	9.15	0.00068	2024.281	0.005494	16473.015
5022 Masonry - NOC	16.08	17.49	15.70	13.70	0.00085	17789.68	0.068027	1430709.1	16.08	16.75	15.14	13.69	0.00037	7698.588	0.050294	1035766.5
5037 Painting: Metal Struct - over 3 stories & c	49.39	52.37	56.28	68.66	0.00049	433.2892	0.099087	88493.805	49.39	50.67	50.75	56.84	0.00019	159.0455	0.056603	46304.108
5040 Iron or Steel: Erection - Frame Structures	32.43	34.63	34.20	32.02	0.00027	2539.485	0.032920	307156.26	32.43	34.00	32.37	33.51	0.00010	967.3301	0.017304	160276.92
5057 Iron or Steel: Erection NOC	24.17	30.06	33.68	41.06	0.00015	916.7951	0.099036	622730.60	24.17	29.45	31.38	35.14	0.00013	778.9707	0.056524	331136.63
5059 Iron or Steel: Erct Fr Strctrs not over 2 st	48.18	51.19	52.46	59.29	0.00014	321.4788	0.081118	138731.80	48.18	47.64	45.18	50.60	0.00037	787.7861	0.056588	116571.78
5069 Iron or Steel: Erect.-const dwlgs n over 2	53.51	54.18	60.07	62.87	0.00009	2.511400	0.022775	663.25541	53.51	52.73	53.96	56.62	0.00006	1.732686	0.024054	658.57398
5102 Door Erection	11.14	11.26	11.55	9.84	0.00064	3065.900	0.084225	402382.98	11.14	11.16	10.82	10.05	0.00008	394.0069	0.036895	173364.67
5148 Furniture Installation - NOC	9.39	10.72	10.63	10.15	0.00052	3582.021	0.023099	158637.81	9.39	10.15	9.46	9.31	0.00028	1775.697	0.007991	51420.116
5160 Elevator Erection or Repair	6.45	6.44	6.08	5.28	0.00027	1098.739	0.076422	290347.89	6.45	6.55	6.03	5.33	0.00029	1184.264	0.061619	265206.82
5183 Plumbing NOC & Drivers	7.38	6.88	5.82	7.10	0.00169	92378.64	0.099071	5410023.0	7.38	7.17	6.14	6.87	0.00072	40423.94	0.056110	3130151.6
5188 Automatic Sprinkler Installation & Drivers	7.49	8.52	8.46	6.42	0.00251	15824.01	0.137096	864019.76	7.49	8.43	7.98	6.45	0.00166	10285.38	0.106029	656541.71
5190 Electrical Wiring - Within buildings & Driv	5.63	5.75	4.99	4.90	0.00029	14176.08	0.009100	445009.27	5.63	5.71	5.07	4.93	0.00019	9321.320	0.014	686875.15
5191 Office Machine Installation or Repair	1.88	1.83	1.60	1.74	0.00060	7844.146	0.041916	548062.41	1.88	1.80	1.58	1.51	0.00049	6109.887	0.022853	284094.49
5192 Vending Machs -Install, Svc or Repr & S	4.18	4.60	4.16	4.58	0.00047	3180.230	0.045871	308965.41	4.18	4.53	4.05	4.38	0.00046	3022.024	0.039145	258241.17
5213 Concrete Construction NOC	17.25	15.53	13.44	16.39	0.00176	75869.98	0.098893	4252990.8	17.25	16.06	14.03	15.54	0.00070	30358.65	0.051065	2205566.2
5215 Concrete Work - Construction of Resider	12.53	12.46	12.13	10.03	0.00051	2837.184	0.094785	522380.84	12.53	12.39	11.46	9.72	0.00030	1623.112	0.082152	442772.07
5221 Concrete Work - Floors, Driveways - & D	13.23	14.71	12.75	10.11	0.00179	77833.42	0.115485	5018009.8	13.23	14.33	13.17	11.86	0.00061	27225.92	0.052307	2353017.8
5222 Concrete Construction Bridges or Culver	18.81	23.15	25.92	19.64	0.00419	81754.06	0.137840	2033447.7	18.81	22.57	21.65	22.00	0.00072	10254.85	0.008018	114914.97
5223 Swimming Pool Construction - All operati	10.15	11.39	12.69	11.79	0.00066	767.4553	0.036784	42873.923	10.15	10.93	11.14	10.75	0.00019	200.9038	0.017816	19369.412
5348 Tile Work - Inside	15.30	12.34	11.18	9.82	0.00036	1298.620	0.084781	238505.03	15.30	13.27	11.53	9.72	0.00001	28.00072	0.085178	318603.52
5402 Hothouse Erection - All operations	15.97	13.48	13.79	14.96	0.00104	180.5168	0.040895	7035.0457	15.97	13.23	12.50	13.42	0.00110	180.8124	0.035493	5811.0949
5403 Carpentry NOC	22.13	24.97	21.68	18.38	0.00148	186796.8	0.081918	10307096.	22.13	23.94	21.65	19.35	0.00067	83901.95	0.056097	7052837.2
5437 Carpentry - Inst. Cabinet Work Inter. Trim	9.29	9.91	9.07	8.42	0.00040	5805.918	0.037184	538541.37	9.29	9.90	8.90	8.58	0.00036	5152.942	0.018306	265135.12
5443 Lathing & Drivers	9.22	10.49	11.59	12.75	0.00000	4.858895	0.047658	75985.224	9.22	9.84	10.07	11.27	0.00011	158.1998	0.056232	82226.918
5445 Wallboard Installation & Drivers	20.02	19.77	17.07	20.82	0.00132	45671.84	0.098870	3426342.2	20.02	20.18	17.96	19.69	0.00044	15153.03	0.048227	1603687.9
5462 Glazier - Away from shop & Drivers	10.01	10.75	10.37	9.33	0.00049	3850.802	0.052791	414598.47	10.01	10.26	9.57	9.41	0.00010	742.1452	0.008429	64224.117
5474 Painting or Paper Hanging NOC & Driver	16.46	17.06	14.87	18.14	0.00117	44525.41	0.099060	3765018.8	16.46	16.37	14.42	16.15	0.00059	21289.38	0.056591	2049685.9
5479 Insulation Work NOC & Drivers	19.10	19.95	17.94	17.48	0.00025	3846.084	0.012987	197660.29	19.10	19.34	17.31	16.92	0.00016	2428.853	0.011393	169216.09
5480 Plastering NOC & Drivers	17.65	15.31	14.56	14.40	0.00032	2072.793	0.005524	35463.670	17.65	16.37	14.71	14.03	0.00005	301.4141	0.023680	153934.65
5491 Paperhanging & Drivers	9.15	7.36	7.73	7.42	0.00095	179.4352	0.020462	3870.3729	9.15	7.11	6.83	6.57	0.00107	190.0441	0.019402	3438.2111
5508 Street or Road Const: Paving or Repavin	8.81	7.70	6.69	8.16	0.00198	77754.60	0.038989	3887154.4	8.81	8.35	7.20	7.44	0.00034	13341.56	0.016393	852772.94
5507 Street or Road Const: Subsurface work I	13.51	11.05	9.92	11.18	0.00189	17712.60	0.059715	627929.19	13.51	11.26	9.60	10.40	0.00125	12862.37	0.04	412414.34
5508 Street or Road Const: Rock Excavation I	15.38	14.12	14.98	12.47	0.00059	775.8704	0.091438	121254.11	15.38	14.19	13.87	11.98	0.00014	181.8461	0.073945	95387.203
5511 Logging Road Construction & Maintenan	14.06	16.03	13.91	10.54	0.00253	73831.57	0.137832	4018858.7	14.06	14.86	13.59	11.00	0.00101	28984.90	0.105327	3013094.5
5538 Sheet Metal Work - NOC & Drivers	9.88	12.22	10.68	8.91	0.00288	125803.6	0.088422	4010863.1	9.88	11.27	10.37	9.46	0.00094	41563.96	0.045890	2042320.2
5551 Roofing - All kinds & Drivers	40.38	37.95	32.96	25.94	0.00028	1442.249	0.119185	81296886.7	40.38	39.22	34.25	30.32	0.00015	8043.812	0.060864	3288547.0
5606 Contractor - Executive Supvsr Const. Sup	3.13	3.23	2.95	2.24	0.00123	14186.78	0.136801	1577241.0	3.13	3.26	2.91	2.33	0.00095	11085.10	0.110987	1284995.2
5610 Cleaner - Debris Removal	8.27	8.53	8.83	9.46	0.00003	35.73586	0.034445	39439.150	8.27	8.16	7.83	8.85	0.00029	307.4320	0.049757	53432.053
5645 Carpentry - Detached Dwellings	19.27	18.95	16.56	19.15	0.00084	47452.83	0.072528	4087452.5	19.27	19.08	16.77	17.53	0.00030	16499.00	0.022157	1227092.2
5651 Carpentry - Dwellings - 3 stories or less	22.70	25.20	24.24	29.57	0.00065	7226.985	0.099052	1096227.8	22.70	24.01	21.81	24.42	0.00045	4546.812	0.056456	570942.33
5703 Building Raising or Moving & Drivers	48.25	48.25	46.45	47.20	0.00003	7.551640	0.008008	2012.1382	48.25	46.47	41.35	41.85	0.00017	39.48195	0.006009	1412.796
5951 Serum Manufacturing & Drivers	3.01	3.39	3.50	3.09	0.00094	245.3756	0.082215	16186.072	3.01	3.42	3.41	3.04	0.00092	236.7886	0.057564	14797.516
6003 Pile Driving & Drivers	35.57	35.22	34.52	26.25	0.00106	2209.839	0.136086	284615.16	35.57	34.23	31.44	26.28	0.00023	460.0609	0.089397	181225.61
6005 Jetty Construction - All Operations & Driv	15.52	17.24	17.33	14.98	0.00099	325.2478	0.072732	23996.691	15.52	16.30	15.37	13.23	0.00059	179.9301	0.074825	22922.823
6017 Dam or Lock Const: Concrete Work - All	22.58	22.12	18.51	17.06	0.00026	602.1004	0.040764	95566.816	22.58	21.82	17.84	16.31	0.00028	652.7779	0.044802	102781.68
6018 Dam or Lock Const: Earth Moving - All O	11.02	10.60	10.39	11.21	0.00022	464.0345	0.037962	78719.592	11.02	10.48	9.70	10.43	0.00032	641.1796	0.036264	72430.931
6045 Levee Construction - All Ops & Drivs	13.47	12.95	14.50	14.33	0.00025	16.39402	0.005896	394.06798	13.47	12.45	13.30	13.03	0.00022	13.60355	0.010254	648.08772

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ (Sm(y))^2	Premium Weighted	TEST 2 (y4-y3)/ (y3+y4)	Premium Weighted
6204 Drilling NOC & Drivers	15.62	17.69	17.44	16.68	0.00048	2401.408	0.022274	112282.60
6208 Oil or Gas Well: Cementing & Drivers	10.22	10.18	10.01	9.39	0.00005	0.040614	0.031958	23.989800
6213 Oil or Gas Well: Sidtg Tool Op NOC-Con	13.80	13.27	-	-	-	0	-	0
6214 Oil or Gas Well: Perf of Casings - All E &	12.27	13.27	12.97	-	-	0	-	0
6216 Oil Lease Work NOC - By contractor & D	18.88	18.20	17.82	16.41	0.00004	20.82734	0.041191	19680.677
6217 Excavation NOC & Drivers	13.92	11.70	10.10	10.43	0.00080	33657.53	0.016074	673273.58
6229 Irrigation System Construction & Drivers	11.37	12.61	13.55	10.47	0.00233	3182.176	0.128226	175477.15
6233 Oil or Gas Pipeline Construction & Drivers	15.29	17.15	17.90	17.33	0.00032	78.32052	0.018179	3924.9070
6235 Oil or Gas Well: Drilling or Redrilling & Dr	40.15	36.19	34.58	30.48	0.00006	67.80968	0.063018	72641.796
6236 Oil or Gas Well: Installation of Casing & I	47.48	51.00	51.32	45.13	0.00063	268.5439	0.064178	27152.190
6237 Oil or Gas Well: Instrmnt logng or Survey	6.96	6.88	-	-	-	0	-	0
6251 Tunneling - Not Pneumatic - All Operatio	22.52	19.53	19.06	17.82	0.00021	34.96039	0.033622	5603.8653
6252 Shaft Sinking - All Operations	19.54	17.11	17.52	16.59	0.00029	407.3135	0.027284	38718.186
6308 Sewer Construction - All Operations & Dr	12.30	15.22	14.24	13.17	0.00156	25930.27	0.039038	649105.27
6319 Gas Main Construction & Drivers	9.81	9.71	9.32	10.62	0.00044	3537.354	0.045195	523448.70
6325 Conduit Construction - For cables or wire	20.23	15.72	13.02	14.62	0.00238	25858.98	0.057887	627707.73
6400 Fence Erection - Metal	19.87	19.22	19.09	17.19	0.00012	377.8311	0.054113	164448.23
6504 Food Sundries, Manufacturing, NOC	11.63	10.33	9.02	6.39	0.00038	8292.699	0.170668	3743144.9
6811 Boat Bldg-Wood-NOC&Drivers-State Act	6.15	7.12	-	-	-	0	-	0
6834 Boat Building or Repair & Drivers	9.95	12.50	11.87	7.60	0.00662	62957.42	0.219311	2084719.9
6836 Marina & Drivers	5.80	7.54	7.57	8.30	0.00064	1495.576	0.045998	107616.42
6854 Boat Bldg-Iron/Steel-NOC&Drv-State Act	5.83	6.82	-	-	-	0	-	0
6878 Diving - State Act coverage	22.75	26.02	24.39	-	-	0	-	0
6882 Ship Repair Conversion-All Ops&D-State	7.07	9.33	-	-	-	0	-	0
6884 Painting-ship hulls-State Act	12.44	14.50	-	-	-	0	-	0
7133 Railroad Operation NOC - All Empl & Drv	9.52	8.34	5.58	4.48	0.00068	40.15975	0.109343	6501.8158
7219 Trucking: NOC - All Employees & Drivers	15.86	16.86	14.19	12.51	0.00082	301936.6	0.062921	23279765.
7230 Trucking: Parcel Delivery - All Empl & Dr	9.97	11.40	10.83	7.00	0.00455	4572.188	0.214806	215713.09
7231 Trucking: Mail, Parcel or Pkg Delivery - A	8.21	8.38	7.02	7.70	0.00072	4980.858	0.048195	319904.23
7360 Freight Handling NOC	10.83	13.28	12.91	10.02	0.00322	9489.052	0.126035	370983.56
7370 Taxicab Co (Gar Empys 8385) All Other	7.12	9.16	8.31	8.06	0.00180	13555.05	0.015271	114934.63
7380 Chauffeurs NOC	6.53	6.66	5.69	6.17	0.00057	50583.07	0.040472	3609612.7
7382 Bus Co: All Other E & Drivers	8.75	9.66	8.58	8.22	0.00062	11782.67	0.021428	406289.92
7390 Beer Dealer - Wholesale & Drivers	6.75	8.35	7.24	8.00	0.00292	43008.81	0.093655	1377105.2
7403 Aircraft or Helicptr Oper.: Sked or Suppl.	4.05	4.97	4.32	2.82	0.00977	5501.854	0.210084	2023793.1
7405 Aircraft or Helicptr Oper.: Sked or Suppl.	0.90	1.06	1.01	0.78	0.00271	4841.908	0.125491	229806.38
7409 Aircraft or Helicptr Oper.: Aerial Applctn.	25.50	22.33	16.46	12.34	0.00921	340.2538	0.143055	235104.83
7418 Aircraft or Helicptr Oper.: Patrol, Photo: I	16.61	14.31	9.57	7.63	0.00061	165.2453	0.112790	36710.791
7420 Aircraft or Helicptr Oper.: Public Exhibn.	22.17	22.31	15.40	11.97	0.00169	568.8430	0.125319	42153.885
7421 Aircraft or Helicptr Oper.: Tstpn of Pshl :	5.25	5.65	4.71	5.00	0.00078	1002.409	0.029868	39299.810
7422 Aircraft or Helicptr Oper.: Sls or Svc Agy	10.46	13.90	15.56	13.51	0.00270	7227.066	0.070519	188431.06
7423 Aircraft or Helicptr Oper.: All Otn Empl &	3.74	3.86	3.40	3.16	0.00032	2008.324	0.036585	227849.71
7431 Aircraft or Helicptr Oper.: Air Carrier Cmt	3.97	4.01	4.00	3.38	0.00053	429.2811	0.084010	68295.332
7502 Gas Co: Natural - Local Distribution & Dr	3.66	4.22	3.85	2.94	0.00255	3786.485	0.134020	199352.78
7515 Oil or Gas Pipeline Operation & Drivers	2.76	3.02	2.88	2.27	0.00110	782.8858	0.082828	59125.712
7520 Waterworks Operation & Drivers	5.13	5.48	4.88	3.40	0.00197	16245.87	0.158415	1309218.9
7538 Electric Power Line Construction & Drive	25.00	24.11	22.05	16.82	0.00064	4615.819	0.134773	975832.79
7539 Electric Power Co NOC - All Employees	2.60	3.28	2.78	2.69	0.00213	23558.11	0.016453	181819.04
7580 Sewage Disposal Plant Operation & Drv	4.18	4.09	3.73	3.06	0.00037	1724.677	0.098874	458515.42
7590 Garbage Works	6.46	7.19	6.74	7.39	0.00034	354.4190	0.048001	48111.387
7600 Telephone or Telegraph Co: All Other Er	2.86	3.41	3.04	2.41	0.00269	40897.59	0.115596	1755642.7
7601 Telephone Line Construction & Drivers	9.88	12.29	11.74	13.38	0.00066	1345.149	0.065286	133208.75
7605 Burglar Alarm Installation or Repair & Dr	3.10	3.73	3.55	3.89	0.00054	1815.198	0.045698	154306.05
7610 Radio Brdcstng Stn-All Employees & Cle	0.71	0.85	0.77	0.63	0.00238	13372.12	0.1	561117.00
7704 Firefighters & Drivers	5.33	4.59	3.60	2.65	0.00006	1028.124	0.152	2682931.0
7720 Police Officers & Drivers	6.67	6.07	5.18	4.41	0.00003	1409.829	0.080291	3611247.4
7855 RR Const: Laying Tracks or Mntnc/by Cc	22.14	26.75	26.75	24.57	0.00118	2326.611	0.042478	83955.988
8001 STORE: Florist & Drivers	3.33	4.42	4.40	4.82	0.00081	5184.298	0.045553	292710.10
8002 Automobile Rental Company	2.81	3.11	3.16	3.18	0.00015	254.4042	0.003154	5478.0839
8006 STORE: Grocery, Retail	5.25	6.53	5.86	5.50	0.00176	58169.51	0.014336	456967.78
8008 STORE: Clothing, Wmg Appar, or Dry G	1.71	2.25	2.06	2.25	0.00135	35154.70	0.044083	1149207.9
8010 STORE: Hardware	2.44	2.87	2.48	2.71	0.00103	23579.79	0.044315	1013432.8
8013 STORE: Jewelry	0.90	1.15	1.15	0.74	0.00710	22901.76	0.216931	699971.89
8017 STORE: Retail, NOC	3.01	3.13	2.89	2.32	0.00064	48397.22	0.073852	5563531.0
8018 STORE: Wholesale NOC	5.19	6.18	5.27	5.60	0.00048	30574.96	0.030358	1944038.4
8021 STORE: Meat, Fish or Poultry Dealer - W	16.62	17.65	15.24	12.60	0.00101	54479.42	0.094827	5133181.4
8031 STORE: Meat, Fish or Poultry - Retail	6.18	7.90	7.46	6.92	0.00184	6298.706	0.037552	128617.49
8032 STORE: Clothing, Wmg Appar, or Drygo	4.21	4.76	4.39	3.17	0.00287	10034.32	0.161375	564741.30

Revised Loss Development Method

1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ (Sm(y))^2	Premium Weighted	TEST 2 (y4-y3)/ (y3+y4)	Premium Weighted
15.62	16.95	16.02	15.90	0.00024	1155.582	0.003759	18124.478
10.22	9.89	8.96	8.44	0.00004	0.030199	0.029885	21.153053
13.80	13.00	-	-	-	0	-	0
12.27	12.78	11.50	-	-	0	-	0
18.88	17.72	16.24	14.68	0.00001	4.817568	0.051132	23124.895
13.92	13.42	11.79	10.97	0.00009	3872.792	0.036028	1638227.4
11.37	12.26	12.21	9.87	0.00129	1893.641	0.105978	138111.42
15.29	16.42	15.88	15.63	0.00017	37.88872	0.007933	1798.1134
40.15	37.14	33.44	28.53	0.00005	53.62236	0.079231	89948.484
47.48	49.98	46.53	41.88	0.00042	188.8172	0.054982	22154.229
6.96	6.74	-	-	-	0	-	0
22.52	18.88	17.01	15.78	0.00028	43.14355	0.037511	5876.3597
19.54	17.55	16.86	15.47	0.00008	83.83789	0.042994	59899.011
12.30	14.39	13.74	13.16	0.00076	12297.34	0.021561	349776.21
9.81	9.94	9.08	9.62	0.00023	1833.764	0.029978	234412.29
20.23	16.28	13.54	14.18	0.00133	14579.96	0.022382	244999.95
19.87	19.21	17.80	16.43	0.00003	86.54483	0.040021	118398.39
11.63	10.31	8.94	6.63	0.00020	4453.424	0.148362	3286110.4
6.15	6.95	-	-	-	0	-	0
9.95	12.03	11.11	8.13	0.00379	35455.50	0.154885	1447717.1
5.80	7.06	6.74	7.29	0.00059	1269.324	0.039201	84430.019
5.83	6.86	-	-	-	0	-	0
22.75	25.21	22.63	-	-	0	-	0
7.07	8.13	-	-	-	0	-	0
12.44	14.25	-	-	-	0	-	0
9.52	8.20	5.34	4.25	0.00075	43.75109	0.113660	6810.8018
15.86	16.91	14.47	12.57	0.00084	311033.2	0.070266	26167886.
9.97	11.48	10.66	7.10	0.00419	4204.068	0.200450	201347.80
8.21	8.40	7.02	6.98	0.00047	3154.903	0.002857	19343.323
10.83	13.10	12.33	9.71	0.00286	8233.612	0.118874	341948.19
7.12	8.58	7.82	7.60	0.00112	8047.455	0.014267	102342.09
6.53	6.65	5.88	5.57	0.00038	31072.00	0.008014	698509.21
8.75	9.16	7.99	7.91	0.00038	6833.081	0.005031	91604.084
6.75	8.11	7.24	8.08	0.00224	32696.03	0.087087	1273292.9
4.05	4.79	4.22	3.09	0.00346	33339.81	0.154582	1489684.4
0.90	1.02	0.98	0.77	0.00181	3155.588	0.109826	191186.13
25.50	23.11	16.95	12.94	0.00939	857.9913	0.134158	225863.34
16.61	14.31	9.31	7.86	0.00084	228.7159	0.097230	26547.477
22.17	21.72	14.77	11.76	0.00143	471.2204	0.113456	37403.891
5.25	5.44	4.50	4.78	0.00070	889.2721	0.030172	38469.966
10.46	13.57	13.90	11.12	0.00381	8848.357	0.111111	272555.53
3.74	3.94	3.42	3.19	0.00048	2992.580	0.034795	218693.78
3.97	3.97	3.84	3.27	0.00038	302.5365	0.080168	63856.664
3.66	4.10	3.86	2.91	0.00180	2619.949	0.114155	165868.01
2.76	2.88	2.51	2.18	0.00061	416.4861	0.070382	48354.781
5.13	5.83	4.85	3.47	0.00249	21013.53	0.165865	1399389.1
25.00	24.52	21.78	18.81	0.00024	1794.636	0.078028	577047.05
2.60	3.06	2.65	2.54	0.00127	13430.53	0.021194	223894.48
4.18	4.10	3.64	3.07	0.00028	1310.560	0.084947	392896.27
6.46	7.03	6.40	6.93	0.00039	391.4741	0.039759	40146.615
2.86	3.06	2.67	2.41	0.00065	9285.583	0.051181	729569.74
9.88	11.99	10.81	12.10	0.00091	1760.309	0.056307	108789.74
3.10	3.58	3.33	3.60	0.00048	1549.944	0.038961	125470.51
0.71	0.83	0.75	0.63	0.00184	10179.46	0.088956	481334.21
5.33	4.70	3.96	2.83	0.00023	4310.511	0.168421	3055558.2
6.67	6.41	5.41	4.69	0.00020	9118.775	0.071287	3328288.4
22.14	24.41	22.68	22.74	0.00034	824.2153	0.001762	3195.6311
3.33	4.31	4.16	4.50	0.00068	5427.001	0.038260	242318.25
2.81	3.04	2.98	2.89	0.00021	350.2420	0.015332	25452.444
5.25	6.33	5.63	5.38	0.00135	42492.91	0.022706	712697.61
1.71	1.99	1.77	1.92	0.00077	17945.05	0.040650	946947.92
2.44	2.77	2.42	2.45	0.00077	17000.00	0.006180	135237.77
0.90	1.14	1.11	0.77	0.00548	17586.73	0.180851	580589.88
3.01	3.18	2.75	2.36	0.00077	59120.98	0.078320	5826849.5
6.19	8.33	5.33	5.12	0.00041	28014.93	0.020095	1271886.4
16.62	17.69	15.45	12.87	0.00096	52485.78	0.091101	4972780.1
6.18	7.51	6.86	6.46	0.00137	4441.648	0.030030	97813.669
4.21	4.70	4.29	3.24	0.00221	7678.689	0.139442	485327.38

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
8033 STORE: Meat, Grocery & Provision Com	2.97	3.94	3.89	3.99	0.00118	70967.20	0.012690	796868.32
8044 STORE: Furniture & Drivers	4.75	6.23	5.54	4.06	0.00540	140754.9	0.154166	4021061.8
8046 STORE: Automobile Accessory-Retail-N	3.09	4.05	3.93	2.90	0.00508	33977.85	0.150805	1008615.5
8047 STORE: Drug - Wholesale	3.16	3.52	3.50	3.08	0.00087	702.7347	0.063829	51846.035
8050 STORE: Five & Ten Cent	2.50	2.53	2.53	2.77	0.00018	292.7296	0.045283	74832.276
8058 Building Material Dealer: Store Employe	3.30	3.49	3.16	2.71	0.00069	3789.418	0.078660	419514.65
8061 Store-Grocery-Convenience-Retail	--	--	--	--		0	--	0
8102 Seed Merchant	6.86	8.29	7.45	6.09	0.00255	20298.88	0.100443	799405.57
8103 Wool Merchant	5.83	7.14	7.99	6.94	0.00192	435.7957	0.070328	15946.526
8105 STORE: Hide Dealer	12.56	11.57	11.20	11.16	0.00011	20.03228	0.001788	337.00093
8106 Iron Merchant & Drivers	9.79	10.78	9.48	8.58	0.00084	14820.87	0.048780	860585.10
8107 Machinery Dealer NOC & Drivers	4.72	6.27	5.82	5.31	0.00255	56251.84	0.045822	1009698.5
8111 Plumbers' Supplies Dealer & Drivers	4.62	4.91	4.59	5.04	0.00028	1182.497	0.046728	199617.37
8116 Farm Machinery Dealer - All Operations .	5.07	5.09	4.59	3.94	0.00034	1676.627	0.076201	419525.85
8203 Ice Dealer & Drivers	10.98	13.22	12.16	9.35	0.00311	1325.498	0.130636	55697.820
8204 Building Material Yard & Local Mgrs, Driv	18.14	16.59	14.72	13.63	0.00029	18.29718	0.038447	2445.0858
8209 Vegetable Packing & Drivers	7.93	7.69	6.50	5.88	0.00019	2429.228	0.050096	629089.42
8215 Hay, Grain or Feed Dealer & Local Mgrs.	10.05	9.41	7.98	7.63	0.00018	749.4415	0.022421	105513.12
8227 Construction or Erection Permanent Yar	7.49	7.93	7.05	5.34	0.00151	33091.75	0.138014	3025111.0
8232 Lumberyard: All other Employees	7.76	8.12	6.90	5.81	0.00082	69914.57	0.085759	7294870.8
8233 Coal Merchant & Local Mgrs, Drivers	12.24	14.08	13.01	12.15	0.00087	10.73957	0.034181	421.29546
8235 Sash Dealer & Drivers	8.37	9.95	9.37	7.08	0.00311	5500.632	0.139209	246579.41
8263 Junk Dealer & Drivers	16.80	17.11	15.96	13.68	0.00042	74.62939	0.076923	13780.035
8264 Bottle Dealer - Used & Drivers	17.79	19.54	16.80	13.28	0.00168	4844.098	0.117021	337536.29
8265 Scrap Dealers, (Iron) & Drivers	18.00	14.91	13.36	12.31	0.00001	122.3947	0.040903	344814.92
8279 Stable & Drivers	15.41	20.47	22.14	14.17	0.00852	36743.89	0.219498	946882.98
8288 Livestock Dealer & Salespersons, Driver	9.05	10.23	9.70	8.17	0.00135	2185.593	0.085818	138756.67
8291 Storage Warehouse - Cold	6.47	8.41	8.32	6.87	0.00320	15747.36	0.095457	469424.54
8292 Storage Warehouse NOC	9.30	9.85	8.60	8.97	0.00044	4990.057	0.021058	238970.77
8293 Storage Warehouse - Furniture & Dealer	16.55	17.81	15.68	12.50	0.00139	18334.87	0.112845	1485884.7
8304 Grain Elevator Operation & Local Mgrs, I	10.44	13.02	12.39	9.84	0.00319	13170.40	0.114709	473379.61
8350 Gasoline or Oil Dealer & Drivers	8.36	7.20	6.07	4.53	0.00007	1198.786	0.145283	2603449.2
8385 Bus Company: Garage Employees	5.91	6.36	5.68	4.46	0.00142	10438.89	0.120315	882444.42
8387 Automobile Service Station & Drivers	7.05	8.08	6.93	5.65	0.00201	188633.4	0.101748	8532111.3
8391 Automobile Repair Shop & Parts Dpt Em	6.99	7.39	6.29	5.44	0.00080	106353.8	0.072463	9662477.9
8392 Automobile Parking Station & Drivers	4.46	5.06	4.54	4.27	0.00070	1658.754	0.030648	72172.128
8393 Automobile Body Repair	8.86	8.38	7.77	4.98	0.00588	158241.8	0.218823	5886927.8
8411 Volunteer Municipal Personnel & Drivers	1.15	1.07	0.86	0.85	0.00043	3356.060	0.005847	45445.721
8500 Scrap Dealers (Metal) & Drivers	19.29	18.33	15.65	11.07	0.00078	1837.111	0.176788	409534.33
8601 Engineer - Consulting	1.76	1.85	1.60	1.50	0.00047	7182.556	0.032258	494986.11
8606 Geophysical Exploration - All employees	8.91	10.10	8.79	7.34	0.00168	1289.636	0.049394	68863.960
8710 Warehousing, Field Bonded - All Employ	4.55	4.31	3.11	2.20	0.00095	71.24423	0.171374	12879.036
8719 Stevedoring (Taliiers or Checking Clerks	3.43	3.31	3.76	3.96	0.00027	8,887191	0.033942	1080.8523
8726 Inspection for Insurance Purposes NOC	1.95	2.59	2.72	1.95	0.00595	13970.18	0.164882	387188.23
8742 Salespersons - Outside	0.87	0.95	0.82	0.74	0.00088	87093.77	0.051282	5217314.7
8745 News Agent - Not retail dealer - & Sales	5.02	5.32	4.57	4.03	0.00071	2054.305	0.062790	180908.28
8748 Automobile Salespersons	1.23	1.42	1.24	1.11	0.00138	24245.07	0.055319	974155.10
8755 Labor Union - All Employees	1.34	1.22	0.97	0.90	0.00028	640.0304	0.037433	86589.390
8800 Mailing Company & Clerical	3.52	4.41	4.25	3.49	0.00281	6527.708	0.098191	227850.75
8803 Auditor - Traveling	0.42	0.43	0.37	0.27	0.00138	3465.582	0.15625	391588.96
8810 Clerical Office Employees NOC	0.53	0.57	0.50	0.46	0.00061	104860.9	0.041686	7186488.2
8820 Attorney- All Employees, Clerical, Messn	0.48	0.53	0.47	0.49	0.00052	5560.621	0.020833	221471.83
8824 Retirmnt, Nrsing, Convlscnt Cntrs: Health	--	--	--	--		0	--	0
8825 Retirmnt, Nrsing, Convlscnt Cntrs: Food S	--	--	--	--		0	--	0
8826 Retirmnt, Nrsing, Convlscnt Cntrs: All Ot	--	--	--	--		0	--	0
8829 Convalescent Home - All Employees	12.39	14.81	12.71	11.68	0.00171	307885.7	0.042230	7625682.9
8831 Hospital - Veterinary & Drivers	2.90	3.45	3.35	2.32	0.00435	23261.91	0.181657	972153.92
8832 Physician and Clerical	0.77	1.02	0.97	0.83	0.00757	244424.1	0.2125	6858568.1
8833 Hospital: Professional Employees	1.92	1.66	1.38	1.16	0.00092	1117.148	0.086614	50334491.5
8835 Nursing - Home Health, Public and Travr	5.50	7.30	6.81	7.47	0.00125	15553.54	0.048218	575137.93
8842 Mental Health Grp Care Homes - All Emp	5.70	7.14	6.71	7.13	0.00089	5428.691	0.030048	323282.29
8868 COLLEGE: Professional Employees & C	0.49	0.59	0.52	0.44	0.00225	160459.7	0.083333	5932561.8
8901 Telephone or Telegraph Co: Office Empl	0.81	0.74	0.61	0.46	0.00024	1048.062	0.140186	600326.85
8989 Domestic Workers - Residences	6.89	6.93	5.98	5.33	0.00032	831.2093	0.057471	149176.54
9014 Buildings - Operation by Contractors	11.84	13.31	11.47	9.41	0.00170	83653.82	0.098659	3703656.2
9015 Buildings NOC - Operation by Owner	6.89	8.12	6.95	7.62	0.00112	85404.89	0.045984	2692784.0
9016 Amusement Park Operation & Drivers	4.62	5.23	4.90	4.82	0.00050	1919.768	0.014314	55260.538
9019 Bridge Operation & Drivers	8.87	9.41	7.07	6.47	0.00014	10.95284	0.044313	3386.9040

Revised Loss Development Method

1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 |y4-y3|/ (y3+y4)	Premium Wghted
2.97	3.85	3.60	3.63	0.00142	84819.75	0.004149	247515.72
4.75	5.82	5.26	4.46	0.00236	60640.95	0.082304	2116462.8
3.09	3.82	3.58	2.97	0.00258	16607.01	0.093129	600131.38
3.16	3.32	3.21	2.88	0.00038	293.1222	0.054187	41723.483
2.50	2.48	2.34	2.53	0.00022	340.2071	0.039014	60387.780
3.30	3.49	3.14	2.70	0.00069	3742.436	0.075342	411322.24
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8.86	8.13	7.21	6.13	0.00198	15536.81	0.080959	636254.52
5.83	7.16	8.10	6.97	0.00210	479.9551	0.074983	17099.572
12.56	11.23	10.48	10.43	0.00021	37.19619	0.002391	433.11862
9.79	10.15	8.80	8.26	0.00038	6421.939	0.031652	535136.21
4.72	5.74	5.31	4.98	0.00134	27640.59	0.032069	662900.37
4.62	4.77	4.37	4.68	0.00025	1037.150	0.034254	140828.52
5.07	5.10	4.51	3.90	0.00035	1908.823	0.072532	396976.37
10.98	13.02	11.68	9.01	0.00288	1201.386	0.129047	53792.557
18.14	18.02	13.78	13.63	0.00025	15.49310	0.005472	339.41534
7.93	7.96	6.67	5.78	0.00045	5691.054	0.071485	908845.37
10.05	9.59	7.93	7.54	0.00025	1170.521	0.025210	118771.08
7.49	7.57	6.69	6.03	0.00027	5859.295	0.051886	1136068.6
7.76	8.38	7.16	6.15	0.00101	88332.90	0.075882	6648920.0
12.24	13.58	12.11	11.51	0.00066	7.835484	0.025402	300.68394
8.37	9.66	8.79	7.03	0.00210	3821.331	0.111251	191843.64
16.80	17.18	15.67	13.58	0.00040	71.82217	0.071452	12735.667
17.79	19.15	16.33	13.46	0.00126	3415.207	0.098341	270083.05
18.00	15.45	13.53	11.81	0.00014	1221.179	0.067876	57431.327
15.41	19.98	20.23	14.85	0.00500	21056.21	0.153363	645687.56
9.05	10.06	9.29	7.83	0.00121	1908.041	0.085280	134786.25
6.47	7.71	7.36	6.81	0.00112	5178.052	0.038814	179956.70
9.30	9.89	8.64	8.55	0.00043	4804.617	0.005235	58862.876
16.55	17.67	15.28	12.73	0.00101	12396.33	0.091038	1112525.5
10.44	12.15	11.23	9.34	0.00181	7068.668	0.091881	358176.12
8.36	7.79	6.43	4.97	0.00029	5515.630	0.128070	2416941.4
5.91	6.33	5.58	4.59	0.00108	7890.283	0.097345	713969.61
7.05	7.92	6.84	5.77	0.00149	124313.6	0.084853	7081962.3
6.99	7.58	6.55	5.64	0.00100	136238.4	0.074851	10201981.
4.46	4.83	4.29	3.98	0.00059	1325.525	0.037484	84844.522
8.86	7.55	6.87	5.31	0.00181	48215.84	0.128078	3275652.9
1.15	1.11	0.88	0.79	0.00039	3054.166	0.053892	418808.17
19.29	18.30	15.32	11.15	0.00062	1457.169	0.157536	367967.25
1.78	1.88	1.62	1.51	0.00059	9205.508	0.035143	543736.32
8.91	10.06	8.58	7.44	0.00143	1090.670	0.071161	54234.079
4.55	4.17	2.94	2.08	0.00070	50.95885	0.171314	12483.838
3.43	3.29	3.58	3.81	0.00035	10.80811	0.031123	966.80445
1.95	2.53	2.47	1.97	0.00089	8392.278	0.112612	256118.27
0.87	0.95	0.82	0.74	0.00088	87093.77	0.051282	5217314.7
5.02	5.23	4.44	3.97	0.00058	1652.583	0.055885	158612.39
1.23	1.42	1.24	1.07	0.00161	28132.95	0.073593	1285588.2
1.34	1.27	1.01	0.87	0.00030	701.2542	0.074488	174590.67
3.52	4.29	3.99	3.39	0.00216	4863.382	0.081300	182878.01
0.42	0.44	0.37	0.29	0.00122	3120.539	0.121212	309894.44
0.53	0.57	0.49	0.44	0.00076	129919.7	0.053763	9137845.9
0.48	0.53	0.47	0.45	0.00063	6570.585	0.021739	228408.64
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12.39	13.88	12.18	11.20	0.00093	161411.2	0.041916	7284313.2
2.90	3.39	3.23	2.46	0.00277	14753.26	0.135325	721791.35
0.77	0.99	0.90	0.70	0.00408	130628.0	0.125	3998748.7
1.92	1.82	1.50	1.24	0.00025	15122.85	0.094890	5838842.2
5.50	7.13	6.55	7.09	0.00123	14894.19	0.039589	477911.08
5.70	6.90	6.25	6.29	0.00104	10466.21	0.003189	32019.210
0.49	0.57	0.50	0.44	0.00154	107833.0	0.062827	4454990.0
0.81	0.76	0.61	0.48	0.00033	1425.559	0.119266	518534.29
6.89	6.79	5.69	4.93	0.00034	844.5107	0.071563	179619.15
11.84	13.38	11.61	9.77	0.00156	59171.10	0.086961	3270762.4
6.89	7.60	6.65	6.83	0.00059	32517.33	0.013353	739373.30
4.62	5.11	4.74	4.80	0.00044	1635.837	0.014989	56213.093
8.87	8.11	6.64	6.04	0.00015	10.97151	0.047318	3480.4934

National Council Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 (y4-y3)/ (y3-y4)	Premium Wghted
9035 Adult Community Care Facilities	9.75	9.68	8.32	8.29	0.00025	4843.125	0.007263	141788.98
9040 Hospital : All Other Employees	5.93	7.10	6.11	5.96	0.00141	52099.85	0.012427	460606.76
9052 Hotel: All other Employees, Sales & Driv	9.75	11.09	9.59	8.46	0.00135	97051.78	0.062603	4503591.0
9060 Club: Country & Clerical	3.38	4.17	3.77	3.53	0.00162	14438.27	0.032876	293751.24
9061 Club NOC & Clerical	5.17	6.15	5.55	5.67	0.00088	8880.546	0.010695	107374.92
9063 YMCA,YWCA,YMHA OR YWHA, Institut	2.48	3.29	3.18	2.41	0.00486	40697.89	0.137745	1152942.5
9079 Restaurant NOC	5.09	5.99	5.19	5.25	0.00109	303453.8	0.005747	1602243.5
9089 Billard Hall	4.61	4.48	3.75	2.47	0.00141	39.37480	0.205787	5742.3349
9093 Bowling Lane	2.84	3.44	3.27	3.06	0.00120	2495.069	0.033175	69031.289
9101 College: All other Employees	6.62	8.30	7.11	5.84	0.00330	268454.0	0.098069	7972954.9
9102 Park NOC - All employees & Drivers	6.13	6.89	6.01	5.79	0.00082	12008.35	0.018844	273325.77
9154 Theater NOC: All other Employees	3.47	4.37	4.16	2.98	0.00482	19058.78	0.165266	652894.09
9156 Theater NOC: Players, Entertainers or M	1.75	1.98	1.72	1.88	0.00079	1791.106	0.044444	100330.14
9178 Athletic Team or Park: Non-Contact Spo	12.87	16.60	15.85	10.22	0.00710	31505.48	0.215957	957888.46
9179 Athletic Team or Park: Contact Sports	21.54	20.97	19.18	19.90	0.00017	6.041903	0.018423	666.57610
9180 Amusement Device Op NOC - Not Trave	10.59	11.35	10.11	11.09	0.00048	3224.833	0.046226	307397.93
9182 Athletic Team or Park: Operation & Driv	4.44	5.91	5.94	5.01	0.00269	1125.043	0.084931	45858.196
9186 Carnival - Traveling - All Employees & Di	31.74	34.98	30.02	19.22	0.00369	16350.05	0.219333	973015.58
9220 Cemetery Operations & Drivers	8.56	8.58	7.79	6.32	0.00057	1537.934	0.104181	281484.87
9305 Cannery: Maintenance&Security Employ	--	--	--	--	--	0	--	0
9308 Bottling NOC Route Supervisors&Drivers	--	--	--	--	--	0	--	0
9310 Log Hauling & Drivers	--	--	--	--	--	0	--	0
9311 Saw Mill: Maintenance&Security Employ	--	--	--	--	--	0	--	0
9315 Planing/Molding Mill: Maintenance&Secu	--	--	--	--	--	0	--	0
9328 Trucking NOC - Garage & Dock Employe	--	--	--	--	--	0	--	0
9343 Auto Sales/Repair: Parts Department Em	--	--	--	--	--	0	--	0
9345 Nursing/Convalescent Home: Cafeteria/K	--	--	--	--	--	0	--	0
9349 School: Cafeteria/Kitchen Employees	--	--	--	--	--	0	--	0
9366 Hospital: Cafeteria/Kitchen Employees	--	--	--	--	--	0	--	0
9402 Street Cleaning & Drivers	8.06	10.16	9.85	10.05	0.00091	6010.337	0.010050	66056.477
9403 Garbage Collection & Drivers	10.65	11.12	9.51	7.90	0.00085	24292.56	0.092475	2656938.1
9410 Municipal, Township, County or State Em	3.47	3.62	3.52	2.30	0.00304	19343.91	0.209621	1332802.3
9425 City: Over 100,000 Population - Compos	3.05	3.55	--	--	--	0	--	0
9451 County: Over 300,000 Population - Comp	2.99	3.47	--	--	--	0	--	0
9470 County: Over 150,000 Population - Comp	3.04	3.44	3.03	2.86	0.00089	7030.042	0.028862	227706.70
9497 State Agencies, Higher Education	0.94	1.13	0.98	1.07	0.00114	28723.49	0.043902	1107932.4
9498 State Agencies, Administrative	1.42	1.23	0.88	0.96	0.00177	18979.61	0.043478	417711.85
9499 State Agencies, All other	4.25	4.31	3.68	2.36	0.00223	799050.7	0.218543	78184182.
9501 Painting: Shop Only & Drivers	6.83	8.49	8.77	5.62	0.00879	31232.54	0.218902	1008780.6
9505 Painting: Automobile Bodies	4.77	5.12	5.52	5.31	0.00033	185.6328	0.019390	10895.829
9519 Household Appliances-Electrical Installat	5.83	5.77	5.08	4.23	0.00035	5070.600	0.091299	1211541.2
9521 House Furnishings Installation NOC & Up	8.37	8.98	8.66	7.43	0.00074	5458.158	0.076444	562708.32
9522 Upholstering	7.95	7.59	6.86	4.73	0.00114	8317.214	0.183779	1345324.8
9534 Mobile Crane/Hoisting Contractors:NOC		16.67	--	--	--	0	--	0
9539 Awning-Tent-Canvas Goods Erctn, Rmvl	27.90	26.70	27.23	25.75	0.00012	134.9523	0.027152	30237.915
9545 Bill Posting & Drivers	22.77	22.27	20.32	20.26	0.00041	274.7870	0.070215	46762.012
9549 Advertising Co & Drivers	17.01	15.62	14.46	16.16	0.00068	698.4228	0.055519	56782.840
9552 Sign Manufacturing - Erection & Drivers	11.72	11.23	10.57	9.25	0.00010	681.0501	0.068599	450368.02
9586 Barber Shop	1.60	2.05	1.91	2.09	0.00102	7155.520	0.045	316018.00
9600 Taxidermist	5.41	4.63	3.81	2.76	0.00007	2.868557	0.159817	6310.1958
9620 Funeral Director & Drivers	2.43	3.22	3.23	2.37	0.00538	12709.24	0.153571	362717.90
					0.55453980	8767868.	38.19057	554808483

Revised Loss Development Method

Class Description	1989 Base	1990	1991	1992	TEST 1 Sum(D^2)/ [Sm(y)]^2	Premium Wghted	TEST 2 (y4-y3)/ (y3-y4)	Premium Wghted
9035 Adult Community Care Facilities	9.75	9.85	8.33	8.09	0.00035	8774.162	0.014816	285856.49
9040 Hospital : All Other Employees	5.93	6.98	6.16	5.83	0.00122	44748.50	0.027522	1011967.8
9052 Hotel: All other Employees, Sales & Driv	9.75	11.21	9.73	8.47	0.00153	110952.7	0.069230	5014892.2
9060 Club: Country & Clerical	3.38	3.93	3.56	3.41	0.00092	7899.354	0.021520	184908.24
9061 Club NOC & Clerical	5.17	6.02	5.35	5.27	0.00092	8961.922	0.007532	73178.195
9063 YMCA,YWCA,YMHA OR YWHA, Institut	2.48	2.96	2.67	2.31	0.00185	14205.89	0.072289	554997.82
9079 Restaurant NOC	5.09	5.82	5.10	4.88	0.00095	257827.5	0.022044	5965764.2
9089 Billard Hall	4.61	5.10	4.54	2.82	0.00419	130.4367	0.230695	7270.7280
9093 Bowling Lane	2.84	3.37	3.11	2.92	0.00111	2245.725	0.031509	63840.418
9101 College: All other Employees	6.62	7.89	6.94	6.01	0.00194	155189.5	0.071814	5752572.5
9102 Park NOC - All employees & Drivers	6.13	6.85	5.99	5.34	0.00107	15293.27	0.057369	823771.09
9154 Theater NOC: All other Employees	3.47	4.33	4.08	3.16	0.00354	14059.00	0.127071	504015.89
9156 Theater NOC: Players, Entertainers or M	1.75	1.87	1.61	1.74	0.00081	1310.976	0.038805	83299.290
9178 Athletic Team or Park: Non-Contact Spo	12.87	15.70	14.75	10.98	0.00371	16084.35	0.146521	635393.98
9179 Athletic Team or Park: Contact Sports	21.54	20.32	18.05	19.01	0.00034	11.82218	0.025903	906.54184
9180 Amusement Device Op NOC - Not Trave	10.59	11.15	9.81	9.96	0.00036	2289.826	0.007587	48547.617
9182 Athletic Team or Park: Operation & Driv	4.44	5.18	5.88	4.83	0.00221	1168.597	0.098351	50749.394
9186 Carnival - Traveling - All Employees & Di	31.74	34.54	29.80	20.77	0.00260	11627.88	0.178584	798232.54
9220 Cemetery Operations & Drivers	8.56	8.32	7.33	6.30	0.00019	513.5735	0.075588	199341.78
9305 Cannery: Maintenance&Security Employ	--	--	--	--	--	0	--	0
9308 Bottling NOC Route Supervisors&Drivers	--	--	--	--	--	0	--	0
9310 Log Hauling & Drivers	--	--	--	--	--	0	--	0
9311 Saw Mill: Maintenance&Security Employ	--	--	--	--	--	0	--	0
9315 Planing/Molding Mill: Maintenance&Secu	--	--	--	--	--	0	--	0
9328 Trucking NOC - Garage & Dock Employe	--	--	--	--	--	0	--	0
9343 Auto Sales/Repair: Parts Department Em	--	--	--	--	--	0	--	0
9345 Nursing/Convalescent Home: Cafeteria/K	--	--	--	--	--	0	--	0
9349 School: Cafeteria/Kitchen Employees	--	--	--	--	--	0	--	0
9366 Hospital: Cafeteria/Kitchen Employees	--	--	--	--	--	0	--	0
9402 Street Cleaning & Drivers	8.06	9.75	9.24	8.85	0.00105	6487.187	0.021558	133446.18
9403 Garbage Collection & Drivers	10.65	11.13	9.52	8.12	0.00074	21357.62	0.079365	2294224.8
9410 Municipal, Township, County or State Em	3.47	3.44	3.21	2.49	0.00077	4812.868	0.126315	784488.25
9425 City: Over 100,000 Population - Compos	3.05	3.47	--	--	--	0	--	0
9451 County: Over 300,000 Population - Comp	2.99	3.39	--	--	--	0	--	0
9470 County: Over 150,000 Population - Comp	3.04	3.48	3.03	2.71	0.00131	10218.04	0.055749	435914.22
9497 State Agencies, Higher Education	0.94	1.07	0.94	1.02	0.00074	18005.60	0.040816	992548.76
9498 State Agencies, Administrative	1.42	1.28	1.03	1.11	0.00093	9628.769	0.037383	387150.53
9499 State Agencies, All other	4.25	4.50	3.82	2.60	0.00238	884889.9	0.190031	70638168.
9501 Painting: Shop Only & Drivers	6.83	8.31	8.25	5.67	0.00494	22208.04	0.185344	833793.51
9505 Painting: Automobile Bodies	4.77	5.14	5.11	4.98	0.00017	89.98138	0.012884	6921.3365
9519 Household Appliances-Electrical Installat	5.83	5.72	4.93	4.38	0.00021	2759.985	0.059078	782063.92
9521 House Furnishings Installation NOC & Up	8.37	8.72	8.29	7.49	0.00031	2271.779	0.050697	387037.56
9522 Upholstering	7.95	7.49	6.80	4.89	0.00055	3990.054	0.148825	1081418.1
9534 Mobile Crane/Hoisting Contractors:NOC		--	--	--	--	0	--	0
9539 Awning-Tent-Canvas Goods Erctn, Rmvl	27.90	25.84	23.96	24.22	0.00012	126.7473	0.005396	5537.7091
9545 Bill Posting & Drivers	22.77	21.23	20.60	18.25	0.00007	46.24813	0.060489	37861.412
9549 Advertising Co & Drivers	17.01	15.49	13.46	14.90	0.00081	792.1304	0.050775	49951.448
9552 Sign Manufacturing - Erection & Drivers	11.72	11.37	10.41	9.17	0.00011	753.9382	0.063329	427257.46
9586 Barber Shop	1.60	2.02	1.85	1.96	0.00112	7644.149	0.028871	196922.07
9600 Taxidermist	5.41	4.47	3.51	2.53	0.00000	0.059726	0.162251	6140.1853
9620 Funeral Director & Drivers	2.43	2.93	2.87	2.20	0.00239	5137.809	0.096509	207276.74
					0.38862317	6568715.	30.77605	475227783