

Figure A3.1: Comparison of various approaches under centered and single-sided methods

A1 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-5.71	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		0.19	-6.25	-5.80	-5.29	5.90	-0.54	-0.09	0.42	103.4%	9.4%	1.6%	7.4%
Use 1-bp shift		-0.08	-6.14	-5.54	-5.33	5.63	-0.43	0.17	0.38	98.7%	7.5%	3.0%	6.7%
Use 2-bp shift		0.33	-5.84	-5.38	-5.29	6.04	-0.13	0.33	0.42	105.8%	2.3%	5.7%	7.4%
Use 10-bp shift		-3.74	-5.31	-5.37	-5.44	1.97	0.40	0.34	0.27	34.5%	7.1%	6.0%	4.7%
Use 50-bp shift		-1.96	-5.25	-5.02	-5.15	3.75	0.46	0.69	0.56	65.6%	8.1%	12.1%	9.8%

A1 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-5.71	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-1.56	-3.77	-4.71	-5.83	4.15	1.94	1.00	-0.12	72.6%	33.9%	17.5%	2.2%
Use 1-bp shift		-0.32	-5.06	-5.29	-5.51	5.39	0.65	0.42	0.20	94.4%	11.3%	7.3%	3.5%
Use 2-bp shift		0.00	-5.25	-5.11	-5.34	5.71	0.46	0.60	0.37	99.9%	8.0%	10.6%	6.4%
Use 10-bp shift		-5.23	-7.01	-6.00	-5.90	0.48	-1.30	-0.29	-0.19	8.3%	22.7%	5.1%	3.4%
Use 50-bp shift		-4.58	-10.05	-6.32	-6.20	1.13	-4.34	-0.61	-0.49	19.8%	76.1%	10.6%	8.7%

A2 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.06	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		2.34	-6.35	-6.07	-5.73	8.40	-0.29	0.00	0.34	138.6%	4.7%	0.1%	5.5%
Use 1-bp shift		1.66	-6.27	-5.79	-5.77	7.72	-0.21	0.28	0.29	127.4%	3.5%	4.5%	4.8%
Use 2-bp shift		1.97	-6.05	-5.49	-5.73	8.03	0.01	0.57	0.34	132.4%	0.2%	9.3%	5.5%
Use 10-bp shift		-3.49	-5.61	-5.70	-5.90	2.57	0.45	0.36	0.16	42.3%	7.4%	5.9%	2.6%
Use 50-bp shift		-1.12	-5.65	-5.49	-5.58	4.94	0.42	0.57	0.48	81.5%	6.9%	9.4%	7.9%

A2 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.06	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-0.85	-4.67	-5.02	-6.36	5.21	1.39	1.04	-0.30	85.9%	23.0%	17.2%	5.0%
Use 1-bp shift		0.70	-5.59	-5.58	-5.98	6.76	0.47	0.48	0.08	111.5%	7.7%	7.9%	1.3%
Use 2-bp shift		0.81	-5.68	-5.19	-5.79	6.87	0.38	0.87	0.27	113.4%	6.3%	14.4%	4.5%
Use 10-bp shift		-5.65	-7.48	-6.46	-6.42	0.42	-1.42	-0.40	-0.35	6.9%	23.5%	6.5%	5.9%
Use 50-bp shift		-3.94	-10.44	-6.96	-6.71	2.12	-4.38	-0.90	-0.65	35.0%	72.3%	14.9%	10.7%

A3 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	1.09	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-11.88	-1.98	3.57	1.65	-12.97	-3.07	2.48	0.56	1186.6%	281.2%	227.0%	50.9%
Use 1-bp shift		-10.94	0.80	2.94	1.65	-12.03	-0.30	1.85	0.55	1100.7%	27.2%	169.3%	50.8%
Use 2-bp shift		-11.24	-5.97	2.99	1.66	-12.34	-7.06	1.89	0.56	1128.4%	645.8%	173.3%	51.4%
Use 10-bp shift		-5.41	-2.09	2.16	1.65	-6.50	-3.18	1.07	0.56	594.7%	290.9%	97.8%	51.1%
Use 50-bp shift		13.09	1.33	2.06	1.59	11.99	0.24	0.97	0.49	1097.1%	22.1%	88.3%	45.1%

A3 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	1.09	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-6.22	11.28	3.97	1.67	-7.31	10.19	2.88	0.57	668.9%	931.8%	263.0%	52.4%
Use 1-bp shift		-11.14	2.54	2.75	1.65	-12.24	1.45	1.65	0.56	1119.3%	132.5%	151.3%	51.0%
Use 2-bp shift		-16.46	-0.20	3.89	1.66	-17.56	-1.30	2.79	0.56	1605.9%	118.6%	255.4%	51.4%
Use 10-bp shift		-8.81	1.48	1.67	1.54	-9.90	0.39	0.58	0.45	905.6%	35.7%	53.0%	41.3%
Use 50-bp shift		33.04	-5.39	1.04	1.20	31.94	-6.48	-0.05	0.11	2922.2%	592.9%	4.6%	10.1%

A4 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	15.67	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-282.73	-83.04	-0.17	23.93	-298.40	-98.71	-15.84	8.26	1904.5%	630.0%	101.1%	52.7%
Use 1-bp shift		-249.78	1.75	-2.57	22.54	-265.44	-13.92	-18.24	6.87	1694.2%	88.8%	116.4%	43.9%
Use 2-bp shift		-250.30	-179.04	-0.78	24.45	-265.97	-194.71	-16.45	8.79	1697.5%	1242.7%	105.0%	56.1%
Use 10-bp shift		-116.34	-82.47	7.66	19.59	-132.01	-98.14	-8.01	3.93	842.6%	626.4%	51.1%	25.1%
Use 50-bp shift		89.85	-3.39	23.38	21.04	74.18	-19.06	7.72	5.37	473.5%	121.6%	49.2%	34.3%

A4 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	15.67	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-144.44	315.93	18.67	31.24	-160.11	300.26	3.00	15.57	1021.9%	1916.4%	19.2%	99.4%
Use 1-bp shift		-248.36	82.28	1.76	26.07	-264.03	66.61	-13.91	10.40	1685.2%	425.2%	88.8%	66.4%
Use 2-bp shift		-347.33	3.05	-8.62	28.84	-363.00	-12.62	-24.29	13.17	2316.8%	80.5%	155.0%	84.1%
Use 10-bp shift		-154.37	109.65	10.11	13.87	-170.03	93.98	-5.56	-1.79	1085.3%	599.9%	35.5%	11.4%
Use 50-bp shift		456.70	7.40	18.29	12.30	441.03	-8.26	2.63	-3.37	2814.9%	52.7%	16.8%	21.5%

A5 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	32.64	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		234.90	-50.31	14.77	30.45	202.26	-82.95	-17.87	-2.19	619.7%	254.1%	54.8%	6.7%
Use 1-bp shift		213.05	23.68	16.25	26.41	180.40	-8.96	-16.39	-6.23	552.7%	27.4%	50.2%	19.1%
Use 2-bp shift		219.16	-133.29	20.96	31.86	186.52	-165.93	-11.68	-0.78	571.4%	508.3%	35.8%	2.4%
Use 10-bp shift		98.77	-39.42	14.29	17.67	66.13	-72.06	-18.35	-14.97	202.6%	220.8%	56.2%	45.9%
Use 50-bp shift		-9.76	7.74	19.04	23.49	-42.40	-24.90	-13.60	-9.15	129.9%	76.3%	41.7%	28.0%

A5 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	32.64	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		169.87	302.46	33.14	51.53	137.23	269.82	0.50	18.89	420.4%	826.6%	1.5%	57.9%
Use 1-bp shift		212.98	107.24	27.70	36.72	180.34	74.60	-4.94	4.08	552.5%	228.5%	15.1%	12.5%
Use 2-bp shift		275.40	38.16	22.80	44.75	242.76	5.52	-9.84	12.11	743.7%	16.9%	30.2%	37.1%
Use 10-bp shift		90.74	92.84	1.08	3.45	58.10	60.20	-31.56	-29.19	178.0%	184.4%	96.7%	89.4%
Use 50-bp shift		-231.88	-5.09	0.04	7.05	-264.52	-37.73	-32.60	-25.59	810.4%	115.6%	99.9%	78.4%

A6 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	28.20	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		28.92	-49.82	28.92	28.92	0.72	-78.02	0.72	0.72	2.6%	276.6%	2.6%	2.6%
Use 1-bp shift		26.07	17.21	26.07	26.07	-2.14	-10.99	-2.14	-2.14	7.6%	39.0%	7.6%	7.6%
Use 2-bp shift		29.94	-132.89	29.94	29.94	1.74	-161.10	1.74	1.74	6.2%	571.2%	6.2%	6.2%
Use 10-bp shift		19.92	-43.79	19.92	19.92	-8.28	-72.00	-8.28	-8.28	29.4%	255.3%	29.4%	29.4%
Use 50-bp shift		23.73	9.21	23.73	23.73	-4.47	-19.00	-4.47	-4.47	15.9%	67.4%	15.9%	15.9%

A6 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	28.20	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		43.86	276.66	43.86	43.86	15.65	248.46	15.65	15.65	55.5%	881.0%	55.5%	55.5%
Use 1-bp shift		33.35	92.40	33.35	33.35	5.14	64.19	5.14	5.14	18.2%	227.6%	18.2%	18.2%
Use 2-bp shift		39.02	33.84	39.02	39.02	10.82	5.64	10.82	10.82	38.4%	20.0%	38.4%	38.4%
Use 10-bp shift		9.41	92.38	9.41	9.41	-18.79	64.18	-18.79	-18.79	66.6%	227.6%	66.6%	66.6%
Use 50-bp shift		10.41	1.79	10.41	10.41	-17.79	-26.41	-17.79	-17.79	63.1%	93.6%	63.1%	63.1%

A7 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	17.13	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		18.84	-0.79	18.84	18.84	1.71	-17.91	1.71	1.71	10.0%	104.6%	10.0%	10.0%
Use 1-bp shift		18.13	16.03	18.13	18.13	1.01	-1.10	1.01	1.01	5.9%	6.4%	5.9%	5.9%
Use 2-bp shift		19.12	-21.43	19.12	19.12	1.99	-38.56	1.99	1.99	11.6%	225.1%	11.6%	11.6%
Use 10-bp shift		16.68	0.76	16.68	16.68	-0.45	-16.37	-0.45	-0.45	2.6%	95.6%	2.6%	2.6%
Use 50-bp shift		17.13	14.56	17.13	17.13	0.00	-2.57	0.00	0.00	0.0%	15.0%	0.0%	0.0%

A7 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	17.13	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		22.55	80.04	22.55	22.55	5.42	62.91	5.42	5.42	31.6%	367.3%	31.6%	31.6%
Use 1-bp shift		19.90	33.41	19.90	19.90	2.77	16.29	2.77	2.77	16.2%	95.1%	16.2%	16.2%
Use 2-bp shift		21.30	17.53	21.30	21.30	4.18	0.40	4.18	4.18	24.4%	2.3%	24.4%	24.4%
Use 10-bp shift		13.38	29.08	13.38	13.38	-3.75	11.95	-3.75	-3.75	21.9%	69.8%	21.9%	21.9%
Use 50-bp shift		11.17	-1.62	11.17	11.17	-5.96	-18.75	-5.96	-5.96	34.8%	109.5%	34.8%	34.8%

B1 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.77	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-7.21	-7.20	-7.20	-14.08	-0.44	-0.44	-0.43	-7.31	6.6%	6.4%	6.4%	108.0%
Use 1-bp shift		-7.21	-7.20	-7.20	-14.08	-0.44	-0.44	-0.43	-7.31	6.6%	6.4%	6.4%	108.0%
Use 2-bp shift		-7.21	-7.20	-7.20	-14.08	-0.44	-0.44	-0.43	-7.31	6.6%	6.4%	6.4%	108.0%
Use 10-bp shift		-7.21	-7.20	-7.20	-14.08	-0.44	-0.44	-0.43	-7.31	6.6%	6.4%	6.4%	108.1%
Use 50-bp shift		-7.55	-7.29	-7.41	-14.10	-0.78	-0.52	-0.65	-7.34	11.5%	7.7%	9.6%	108.4%

B1 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.77	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-7.21	-7.21	-7.21	-14.09	-0.45	-0.44	-0.44	-7.32	6.6%	6.5%	6.5%	108.1%
Use 1-bp shift		-7.22	-7.21	-7.21	-14.09	-0.45	-0.44	-0.44	-7.32	6.7%	6.5%	6.5%	108.2%
Use 2-bp shift		-7.23	-7.21	-7.22	-14.10	-0.46	-0.45	-0.45	-7.34	6.8%	6.6%	6.6%	108.4%
Use 10-bp shift		-7.29	-7.26	-7.27	-14.20	-0.52	-0.49	-0.51	-7.44	7.7%	7.3%	7.5%	109.9%
Use 50-bp shift		-7.40	-8.33	-7.84	-14.73	-0.64	-1.56	-1.08	-7.96	9.4%	23.1%	15.9%	117.6%

B2 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.45	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-6.96	-6.95	-6.95	-16.46	-0.51	-0.50	-0.49	-10.01	7.9%	7.7%	7.7%	155.1%
Use 1-bp shift		-6.96	-6.95	-6.95	-16.46	-0.51	-0.50	-0.49	-10.01	7.9%	7.7%	7.7%	155.1%
Use 2-bp shift		-6.96	-6.95	-6.95	-16.46	-0.51	-0.50	-0.49	-10.01	7.9%	7.7%	7.7%	155.1%
Use 10-bp shift		-6.96	-6.95	-6.95	-16.46	-0.51	-0.50	-0.49	-10.01	7.9%	7.7%	7.7%	155.1%
Use 50-bp shift		-7.30	-7.08	-7.11	-16.49	-0.84	-0.63	-0.66	-10.04	13.1%	9.7%	10.2%	155.5%

B2 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-6.45	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		-6.96	-6.95	-6.95	-16.47	-0.51	-0.50	-0.50	-10.02	7.9%	7.7%	7.7%	155.2%
Use 1-bp shift		-6.97	-6.95	-6.95	-16.48	-0.51	-0.50	-0.50	-10.02	8.0%	7.8%	7.8%	155.3%
Use 2-bp shift		-6.98	-6.96	-6.96	-16.49	-0.52	-0.51	-0.51	-10.04	8.1%	7.9%	7.9%	155.6%
Use 10-bp shift		-7.04	-7.00	-7.02	-16.61	-0.58	-0.55	-0.57	-10.16	9.1%	8.6%	8.8%	157.4%
Use 50-bp shift		-7.10	-8.05	-7.48	-17.22	-0.65	-1.60	-1.03	-10.77	10.1%	24.8%	15.9%	166.9%

B3 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	15.46	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		14.47	14.47	14.45	-4.22	-0.99	-0.99	-1.01	-19.68	6.4%	6.4%	6.5%	127.3%
Use 1-bp shift		14.47	14.47	14.45	-4.22	-0.99	-0.99	-1.01	-19.68	6.4%	6.4%	6.5%	127.3%
Use 2-bp shift		14.47	14.47	14.45	-4.22	-0.99	-0.99	-1.01	-19.68	6.4%	6.4%	6.5%	127.3%
Use 10-bp shift		14.47	14.47	14.45	-4.22	-0.99	-0.99	-1.01	-19.68	6.4%	6.4%	6.5%	127.3%
Use 50-bp shift		13.62	14.36	14.48	-4.22	-1.84	-1.10	-0.98	-19.68	11.9%	7.1%	6.3%	127.3%

B3 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	15.46	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		14.46	14.46	14.44	-4.22	-1.00	-1.00	-1.02	-19.68	6.5%	6.5%	6.6%	127.3%
Use 1-bp shift		14.45	14.46	14.43	-4.22	-1.01	-1.01	-1.03	-19.68	6.5%	6.5%	6.6%	127.3%
Use 2-bp shift		14.44	14.44	14.42	-4.22	-1.03	-1.02	-1.05	-19.68	6.6%	6.6%	6.8%	127.3%
Use 10-bp shift		14.29	14.33	14.27	-4.25	-1.17	-1.14	-1.20	-19.71	7.6%	7.3%	7.7%	127.5%
Use 50-bp shift		11.21	9.16	13.55	-4.41	-4.26	-6.30	-1.91	-19.87	27.5%	40.7%	12.4%	128.5%

B4 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	101.34	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		98.09	97.84	97.65	49.48	-3.25	-3.50	-3.69	-51.86	3.2%	3.5%	3.6%	51.2%
Use 1-bp shift		98.09	97.84	97.65	49.48	-3.25	-3.50	-3.69	-51.86	3.2%	3.5%	3.6%	51.2%
Use 2-bp shift		98.09	97.84	97.65	49.48	-3.25	-3.50	-3.69	-51.86	3.2%	3.5%	3.6%	51.2%
Use 10-bp shift		98.09	97.84	97.66	49.48	-3.24	-3.50	-3.68	-51.86	3.2%	3.4%	3.6%	51.2%
Use 50-bp shift		92.10	120.59	97.39	49.56	-9.24	19.25	-3.95	-51.78	9.1%	19.0%	3.9%	51.1%

B4 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	101.34	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift		98.04	97.80	97.60	49.46	-3.30	-3.54	-3.74	-51.88	3.3%	3.5%	3.7%	51.2%
Use 1-bp shift		98.00	97.77	97.56	49.43	-3.34	-3.57	-3.78	-51.90	3.3%	3.5%	3.7%	51.2%
Use 2-bp shift		97.91	97.70	97.46	49.39	-3.43	-3.64	-3.88	-51.95	3.4%	3.6%	3.8%	51.3%
Use 10-bp shift		97.18	97.15	96.72	49.05	-4.16	-4.19	-4.62	-52.29	4.1%	4.1%	4.6%	51.6%
Use 50-bp shift		76.78	46.81	93.13	47.40	-24.55	-54.53	-8.21	-53.94	24.2%	53.8%	8.1%	53.2%

Actual Chg	-0.13	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-0.12	-0.12	-0.12	0.00	0.01	0.01	0.01	0.01	0.13	5.5%	5.4%	5.2%	102.6%
Use 1-bp shift	-0.12	-0.12	-0.12	0.00	0.01	0.01	0.01	0.13	5.5%	5.5%	5.2%	102.6%	
Use 2-bp shift	-0.12	-0.12	-0.12	0.00	0.01	0.01	0.01	0.13	5.5%	5.5%	5.2%	102.6%	
Use 10-bp shift	-0.12	-0.12	-0.12	0.00	0.01	0.01	0.01	0.13	5.6%	6.1%	5.2%	102.6%	
Use 50-bp shift	-0.50	-1.35	-0.85	-0.01	-0.37	-1.22	-0.72	0.12		283.3%	930.8%	553.0%	94.2%

C4 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.05	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.3%	1.9%	38.8%
Use 1-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.3%	1.9%	38.8%
Use 2-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.3%	1.9%	38.8%
Use 10-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.3%	1.9%	38.8%
Use 50-bp shift	-2.22	17.57	-1.23	-0.76		-1.17	18.63	-0.18	0.29	110.8%	1768.0%	17.1%	27.8%

C4 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.05	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.3%	1.9%	38.8%
Use 1-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.02	0.02	0.41	2.7%	2.4%	1.9%	38.8%
Use 2-bp shift	-1.02	-1.03	-1.03	-1.03	-0.64	0.03	0.03	0.02	0.41	2.7%	2.4%	1.9%	38.8%
Use 10-bp shift	-1.02	-1.02	-1.03	-1.03	-0.64	0.03	0.03	0.02	0.41	2.8%	2.8%	2.0%	38.9%
Use 50-bp shift	-1.77	-4.44	-1.59	-0.64		-0.72	-3.38	-0.54	0.41	68.3%	321.1%	51.2%	39.1%

C5 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.29	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 1-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 2-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 10-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 50-bp shift	-4.18	19.49	-5.34	-4.63		-2.88	20.78	-4.05	-3.33	223.2%	1608.1%	313.2%	258.0%

C5 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.29	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 1-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.5%	0.3%	8.6%	
Use 2-bp shift	-1.30	-1.30	-1.30	-1.40	-0.01	-0.01	0.00	-0.11	0.7%	0.4%	0.3%	8.6%	
Use 10-bp shift	-1.30	-1.29	-1.29	-1.40	-0.01	0.00	0.00	-0.11	0.7%	0.0%	0.2%	8.5%	
Use 50-bp shift	-0.77	-4.10	-1.49	-1.40		0.53	-2.80	-0.20	-0.11	40.7%	217.0%	15.1%	8.1%

C6 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.15	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 1-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 2-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 10-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 50-bp shift	-3.00	17.17	-3.00	-3.00		-1.84	18.32	-1.84	-1.84	159.7%	1587.4%	159.7%	159.7%

C6 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-1.15	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 1-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.1%	0.0%	0.0%
Use 2-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.00	0.00	0.00	0.00	0.0%	0.1%	0.0%	0.0%
Use 10-bp shift	-1.15	-1.15	-1.15	-1.15	0.00	0.01	0.00	0.00	0.00	0.1%	0.5%	0.1%	0.1%
Use 50-bp shift	-1.15	-3.81	-1.15	-1.15		0.00	-2.65	0.00	0.00	0.4%	229.8%	0.4%	0.4%

C7 Centered		Approx Chg				Error \$				Abs error %			
Actual Chg	-0.58	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 1-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 2-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 10-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 50-bp shift	-0.58	5.25	-0.58	-0.58		0.00	5.83	0.00	0.00	0.0%	1005.4%	0.0%	0.0%

C7 Single-sided		Approx Chg				Error \$				Abs error %			
Actual Chg	-0.58	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel	Scaled	Unscaled	Cum	Parallel
Use 0.5-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 1-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Use 2-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.0%	0.1%	0.0%	0.0%
Use 10-bp shift	-0.58	-0.58	-0.58	-0.58	0.00	0.00	0.00	0.00	0.00	0.1%	0.5%	0.1%	0.1%
Use 50-bp shift	-0.58	-1.46	-0.58	-0.58		0.00	-0.88	0.00	0.00	0.4%	151.8%	0.4%	0.4%