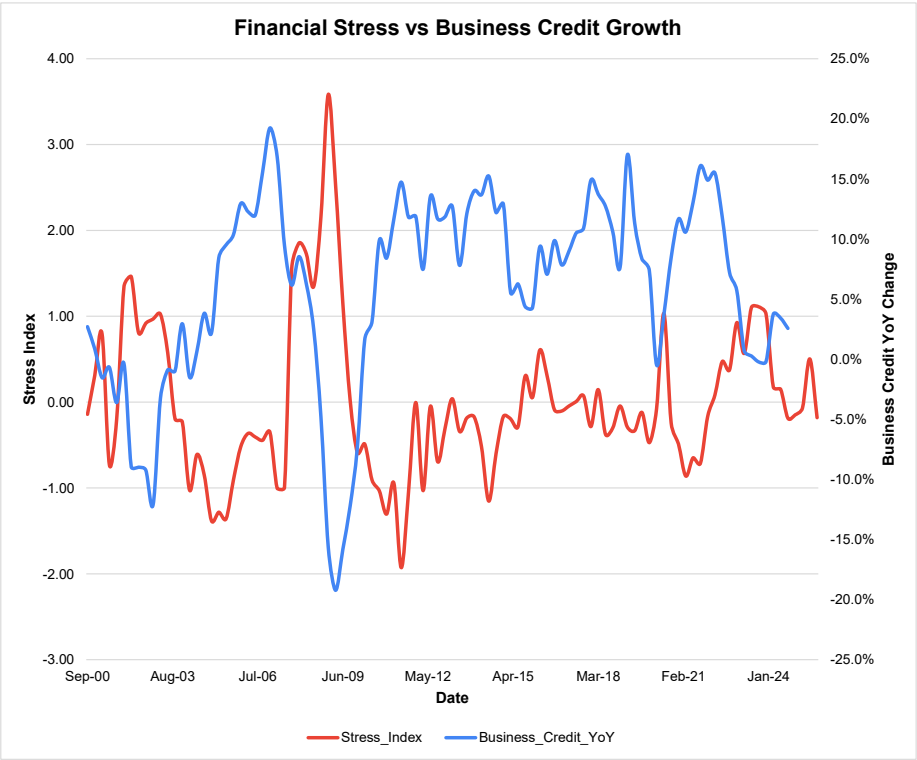
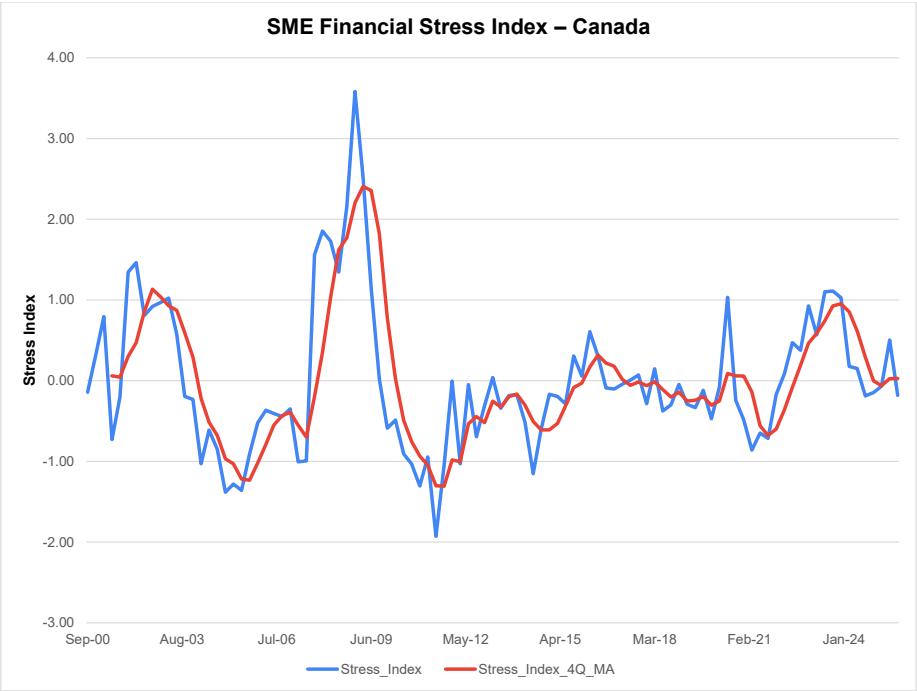


Date	BOS_CREDIT	SLOS_BUS_LEND	BOS_z	SLOS_z	Stress_Index	Stress_Index_4Q_MA	Stress_Index_Deviation	Traffic_Light	Business_Credit_Level	Business_Credit_YoY
2000-09-30	-15.00	14.19	-0.90	0.62	-0.14		-0.14	Yellow	263,389	
2000-12-31	-20.00	40.01	-1.22	1.84	0.31		0.31	Yellow	261,033	
2001-03-31	-9.00	45.97	-0.53	2.12	0.79		0.79	Yellow	275,177	
2001-06-30	-39.00	20.93	-2.40	0.94	-0.73	0.06	-0.73	Yellow	268,291	
2001-09-30	-20.00	18.29	-1.22	0.81	-0.20	0.04	-0.20	Yellow	270,515	2.7%
2001-12-31	29.00	19.17	1.83	0.86	1.34	0.30	1.34	Red	263,252	0.9%
2002-03-31	31.00	21.53	1.96	0.97	1.46	0.47	1.46	Red	270,938	-1.5%
2002-06-30	11.00	20.17	0.71	0.90	0.81	0.85	0.81	Yellow	266,463	-0.7%
2002-09-30	9.00	27.54	0.59	1.25	0.92	1.13	0.92	Red	260,739	-3.6%
2002-12-31	15.00	21.70	0.96	0.97	0.97	1.04	0.97	Red	262,281	-0.4%
2003-03-31	19.00	18.79	1.21	0.84	1.02	0.93	1.02	Red	246,669	-9.0%
2003-06-30	11.00	10.23	0.71	0.43	0.57	0.87	0.57	Yellow	242,517	-9.0%
2003-09-30	-11.00	6.64	-0.66	0.26	-0.20	0.59	-0.20	Yellow	236,643	-9.2%
2003-12-31	-10.00	3.82	-0.59	0.13	-0.23	0.29	-0.23	Yellow	230,552	-12.1%
2004-03-31	-17.00	-20.69	-1.03	-1.03	-1.03	-0.22	-1.03	Green	238,668	-3.2%
2004-06-30	-4.00	-20.17	-0.22	-1.00	-0.61	-0.52	-0.61	Yellow	240,366	-0.9%
2004-09-30	-3.00	-31.57	-0.16	-1.54	-0.85	-0.68	-0.85	Yellow	234,340	-1.0%
2004-12-31	-20.00	-31.80	-1.22	-1.55	-1.38	-0.97	-1.38	Green	237,355	3.0%
2005-03-31	-19.00	-28.84	-1.15	-1.41	-1.28	-1.03	-1.28	Green	235,075	-1.5%
2005-06-30	-18.00	-33.43	-1.09	-1.63	-1.36	-1.22	-1.36	Green	241,943	0.7%
2005-09-30	-22.00	-9.05	-1.34	-0.48	-0.91	-1.23	-0.91	Green	243,274	3.8%
2005-12-31	-8.00	-11.13	-0.47	-0.58	-0.52	-1.02	-0.52	Yellow	242,554	2.2%
2006-03-31	-5.00	-8.46	-0.28	-0.45	-0.37	-0.79	-0.37	Yellow	254,922	8.4%
2006-06-30	-5.00	-10.20	-0.28	-0.53	-0.41	-0.55	-0.41	Yellow	264,949	9.5%
2006-09-30	-19.00	6.63	-1.15	0.26	-0.45	-0.43	-0.45	Yellow	268,451	10.3%
2006-12-31	-10.00	-1.15	-0.59	-0.10	-0.35	-0.39	-0.35	Yellow	273,946	12.9%
2007-03-31	-19.00	-17.07	-1.15	-0.86	-1.00	-0.55	-1.00	Green	286,228	12.3%
2007-06-30	-15.00	-21.94	-0.90	-1.09	-0.99	-0.70	-0.99	Green	296,720	12.0%
2007-09-30	25.00	33.69	1.58	1.54	1.56	-0.20	1.56	Red	310,194	15.5%
2007-12-31	24.00	47.37	1.52	2.19	1.85	0.35	1.85	Red	326,647	19.2%
2008-03-31	24.00	41.95	1.52	1.93	1.73	1.04	1.73	Red	334,437	16.8%
2008-06-30	14.00	38.99	0.90	1.79	1.35	1.62	1.35	Red	324,816	9.5%
2008-09-30	32.00	49.77	2.02	2.30	2.16	1.77	2.16	Red	329,324	6.2%
2008-12-31	58.00	75.81	3.64	3.53	3.58	2.20	3.58	Red	354,538	8.5%
2009-03-31	36.00	60.31	2.27	2.80	2.53	2.41	2.53	Red	355,366	6.3%
2009-06-30	12.00	33.39	0.78	1.53	1.15	2.36	1.15	Red	332,992	2.5%
2009-09-30	-4.00	6.66	-0.22	0.26	0.02	1.82	0.02	Yellow	313,443	-4.8%
2009-12-31	-12.00	-8.71	-0.72	-0.46	-0.59	0.78	-0.59	Yellow	299,093	-15.6%
2010-03-31	-1.00	-18.94	-0.03	-0.94	-0.49	0.02	-0.49	Yellow	287,022	-19.2%
2010-06-30	-10.00	-24.79	-0.59	-1.22	-0.91	-0.49	-0.91	Green	280,298	-15.8%
2010-09-30	-16.00	-22.26	-0.97	-1.10	-1.03	-0.75	-1.03	Green	275,148	-12.2%
2010-12-31	-14.00	-36.38	-0.84	-1.77	-1.30	-0.93	-1.30	Green	277,376	-7.3%
2011-03-31	-6.00	-31.71	-0.34	-1.55	-0.95	-1.05	-0.95	Green	291,693	1.6%
2011-06-30	-24.00	-49.64	-1.46	-2.39	-1.93	-1.30	-1.93	Green	289,043	3.1%
2011-09-30	-13.00	-26.88	-0.78	-1.32	-1.05	-1.31	-1.05	Green	302,359	9.9%
2011-12-31	5.00	-6.33	0.34	-0.35	0.00	-0.98	0.00	Yellow	300,721	8.4%
2012-03-31	-20.00	-16.89	-1.22	-0.85	-1.03	-1.00	-1.03	Green	325,788	11.7%
2012-06-30	7.00	-10.83	0.46	-0.56	-0.05	-0.53	-0.05	Yellow	331,637	14.7%
2012-09-30	-10.00	-15.84	-0.59	-0.80	-0.70	-0.44	-0.70	Yellow	338,081	11.8%
2012-12-31	-7.00	-3.41	-0.41	-0.21	-0.31	-0.52	-0.31	Yellow	336,422	11.9%
2013-03-31	6.00	-5.79	0.40	-0.32	0.04	-0.25	0.04	Yellow	350,158	7.5%
2013-06-30	-1.00	-12.72	-0.03	-0.65	-0.34	-0.33	-0.34	Yellow	376,564	13.5%
2013-09-30	0.00	-7.35	0.03	-0.40	-0.18	-0.20	-0.18	Yellow	377,548	11.7%
2013-12-31	3.00	-10.84	0.22	-0.56	-0.17	-0.16	-0.17	Yellow	376,278	11.8%
2014-03-31	-8.00	-10.92	-0.47	-0.57	-0.52	-0.30	-0.52	Yellow	394,694	12.7%
2014-06-30	-27.00	-12.84	-1.65	-0.66	-1.15	-0.51	-1.15	Green	405,947	7.8%
2014-09-30	-11.00	-10.45	-0.66	-0.54	-0.60	-0.61	-0.60	Yellow	423,342	12.1%
2014-12-31	-3.00	-2.70	-0.16	-0.18	-0.17	-0.61	-0.17	Yellow	428,969	14.0%
2015-03-31	-11.00	6.66	-0.66	0.26	-0.20	-0.53	-0.20	Yellow	448,701	13.7%
2015-06-30	-10.00	1.40	-0.59	0.02	-0.29	-0.31	-0.29	Yellow	467,799	15.2%
2015-09-30	7.00	4.19	0.46	0.15	0.31	-0.09	0.31	Yellow	474,982	12.2%
2015-12-31	-2.00	5.39	-0.10	0.20	0.05	-0.03	0.05	Yellow	484,306	12.9%
2016-03-31	15.00	6.39	0.96	0.25	0.61	0.17	0.61	Yellow	473,485	5.5%
2016-06-30	-8.00	23.87	-0.47	1.08	0.30	0.32	0.30	Yellow	497,117	6.3%
2016-09-30	-5.00	3.25	-0.28	0.10	-0.09	0.22	-0.09	Yellow	495,716	4.4%
2016-12-31	-1.00	-2.62	-0.03	-0.17	-0.10	0.18	-0.10	Yellow	505,112	4.3%
2017-03-31	-2.00	1.18	-0.10	0.01	-0.04	0.02	-0.04	Yellow	517,833	9.4%
2017-06-30	-1.00	2.06	-0.03	0.05	0.01	-0.06	0.01	Yellow	532,256	7.1%



METHODOLOGY NOTES

2017-09-30	3.00	-0.47	0.22	-0.07	0.07	-0.02	0.07 Yellow	544,631	9.9%
2017-12-31	-4.00	-6.36	-0.22	-0.35	-0.28	-0.06	-0.28 Yellow	544,731	7.8%
2018-03-31	9.00	-5.24	0.59	-0.30	0.15	-0.02	0.15 Yellow	564,440	9.0%
2018-06-30	-5.00	-8.85	-0.28	-0.47	-0.37	-0.11	-0.37 Yellow	588,222	10.5%
2018-09-30	-1.00	-10.94	-0.03	-0.57	-0.30	-0.20	-0.30 Yellow	604,035	10.9%
2018-12-31	11.00	-15.98	0.71	-0.80	-0.05	-0.14	-0.05 Yellow	625,839	14.9%
2019-03-31	-7.00	-2.67	-0.41	-0.18	-0.29	-0.25	-0.29 Yellow	641,935	13.7%
2019-06-30	-6.00	-5.76	-0.34	-0.32	-0.33	-0.24	-0.33 Yellow	663,027	12.7%
2019-09-30	-5.00	1.94	-0.28	0.04	-0.12	-0.20	-0.12 Yellow	668,057	10.6%
2019-12-31	-3.00	-15.62	-0.16	-0.79	-0.47	-0.30	-0.47 Yellow	673,755	7.7%
2020-03-31	-8.00	7.69	-0.47	0.31	-0.08	-0.25	-0.08 Yellow	751,108	17.0%
2020-06-30	19.00	19.16	1.21	0.85	1.03	0.09	1.03 Red	738,020	11.3%
2020-09-30	-13.00	7.28	-0.78	0.29	-0.24	0.06	-0.24 Yellow	723,725	8.3%
2020-12-31	-13.00	-3.03	-0.78	-0.19	-0.49	0.06	-0.49 Yellow	723,634	7.4%
2021-03-31	-16.00	-14.95	-0.97	-0.76	-0.86	-0.14	-0.86 Yellow	747,536	-0.5%
2021-06-30	-13.00	-9.93	-0.78	-0.52	-0.65	-0.56	-0.65 Yellow	765,255	3.7%
2021-09-30	-12.00	-14.02	-0.72	-0.71	-0.71	-0.68	-0.71 Yellow	784,890	8.5%
2021-12-31	2.00	-9.38	0.15	-0.49	-0.17	-0.60	-0.17 Yellow	808,009	11.7%
2022-03-31	6.00	-3.88	0.40	-0.23	0.08	-0.36	0.08 Yellow	826,646	10.6%
2022-06-30	16.00	-0.64	1.02	-0.08	0.47	-0.08	0.47 Yellow	865,072	13.0%
2022-09-30	12.00	0.57	0.78	-0.02	0.38	0.19	0.38 Yellow	911,103	16.1%
2022-12-31	27.00	4.07	1.71	0.14	0.93	0.46	0.93 Red	928,361	14.9%
2023-03-31	10.00	11.30	0.65	0.48	0.57	0.59	0.57 Yellow	954,698	15.5%
2023-06-30	30.00	7.61	1.90	0.31	1.10	0.74	1.10 Red	967,508	11.8%
2023-09-30	26.00	13.20	1.65	0.57	1.11	0.93	1.11 Red	976,845	7.2%
2023-12-31	29.00	5.76	1.83	0.22	1.03	0.95	1.03 Red	981,245	5.7%
2024-03-31	4.00	2.64	0.28	0.07	0.18	0.85	0.18 Yellow	961,597	0.7%
2024-06-30	0.00	6.85	0.03	0.27	0.15	0.62	0.15 Yellow	970,115	0.3%
2024-09-30	-7.00	1.71	-0.41	0.03	-0.19	0.29	-0.19 Yellow	974,614	-0.2%
2024-12-31	-3.00	-1.89	-0.16	-0.14	-0.15	0.00	-0.15 Yellow	979,234	-0.2%
2025-03-31	-3.00	1.51	-0.16	0.02	-0.07	-0.06	-0.07 Yellow	997,614	3.7%
2025-06-30	16.00	0.67	1.02	-0.02	0.50	0.02	0.50 Yellow	1,003,295	3.4%
2025-09-30	-6.00	0.67	-0.34	-0.02	-0.18	0.03	-0.18 Yellow	999,601	2.6%

Data Sources:
- BOS_CREDIT: Business Outlook Survey series measuring credit conditions (balance of opinion on credit conditions tightening/easing)
- SLOS_BUS_LEND: Senior Loan Officer Survey series measuring business lending conditions (net percentage of institutions tightening)

- Stress Index Construction:**
- Z-score normalization: Both BOS and SLOS series are standardized using z-scores (BOS_z, SLOS_z)
 - Composite Index: Stress_Index = average of BOS_z and SLOS_z (equal weighting)
 - Moving Average: Stress_Index_4Q_MA = 4-quarter moving average of Stress_Index for trend smoothing

Traffic Light Rules:
- GREEN: Stress_Index < -0.5 (favorable credit conditions, below-average stress)
- YELLOW: -0.5 <= Stress_Index <= 1.0 (normal credit conditions)
- RED: Stress_Index > 1.0 (elevated stress, tightening credit conditions)

Business Credit Data:
- Business_Credit_Level: Total credit liabilities of private non-financial corporations (\$ millions)
- Business_Credit_YoY: Year-over-year percentage change in business credit levels

PARAMETERS	
Traffic Light Thresholds (in standard deviations):	
Red Threshold (upper)	1.00 (Stress above this many std devs = Red)
Green Threshold (lowe	-1.00 (Stress below this many std devs = Green)

STATISTICS (Helper Cells)

BOS_CREDIT Series:

Mean	-0.47
Std Dev	16.07

SLOS_BUS_LEND Series:

Mean	1.06
Std Dev	21.19

Stress_Index Series: (Stress_Index Std Dev × Red Threshold)
Mean 0.00 (Stress_Index Std Dev × Green Threshold)
Std Dev 0.89

Note: Traffic Light thresholds are currently based on ±1 standard deviation of the Stress_Index.
The z-score formulas (BOS_z, SLOS_z) use dynamic statistics from the full data series.

Calculated Thresholds (in deviation units):

Red Threshold Value	0.89
Green Threshold Value	-0.89