Stress Test Modeling Tool Instructions

Version 1.0

Indian River Consulting Group

www.ircg.com

About IRCG

Management advisory services focused on distribution businesses

Market access: aligning resources with market opportunities

- Go-to market strategy
- Sales and marketing structure
- Sales force management and incentive design
- Analytics on cost to serve and margin optimization
- Channel design and management

Industry depth

- Clients include world class B2B sales organizations in construction, industrial, retail sectors
- Speaking and research for NAW, HARDI, ASA, NAED, etc.
- Books published by NAW on sale incentive design, distribution strategy, and sales management
- Member of Boards of Directors for several distributors
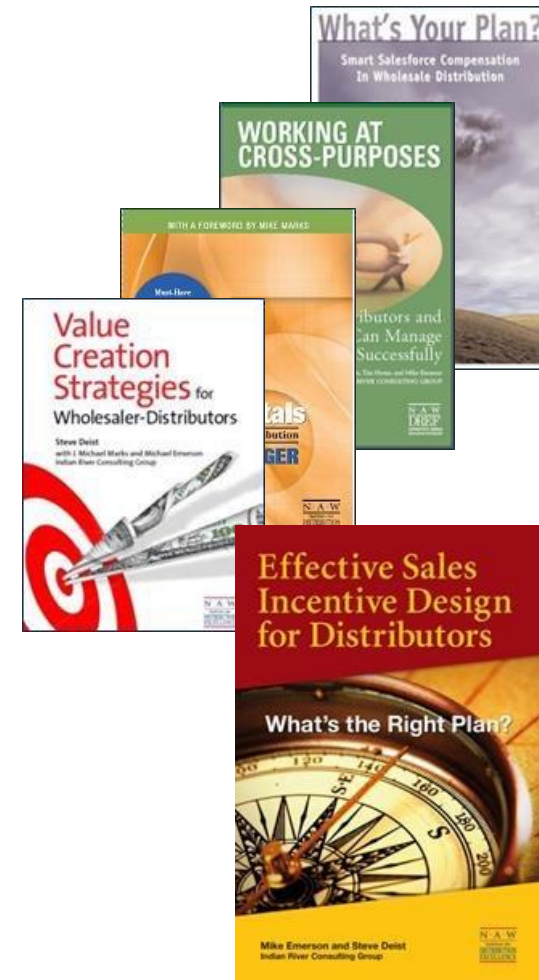
Tool Background

Put together to help distribution companies understand how the economic impacts of the coronavirus may impact their businesses

Simply put, what are the cash implications of extended periods of depressed sales?

We have tried to optimize its value while reducing its complexity

- To some the tool will seem overly complex as history for all expense and working capital accounts are required
- Many others will find it overly simplistic as summary accounts are used and it doesn't get down to the GL level

Tool requirements consist of historical revenues and expenses as well as working capital accounts (e.g. cash, inventory, AR and AP)

Functionality allows user to project revenue levels over the next 12 months while making adjustments to expenses, debt service, payable days, AR and inventory to estimate its cash position throughout the period

Historical P&L

	A		C	D	E
1			Business Days		22
2			Average Daily Sales	B	$4.55
3	A	**ONLY ENTER VALUES IN SHADED CELLS**			
4					
5		Account	**Cost Type*** (Use pull-down menu)		19-Jan
6	**Sales**				
7		Stock Sales less returns and allowances	C		$80.0
8		Direct Sales less returns and allowances			$20.0
10	**Total Net Sales**				$100.0
11					
12	**COGS**				
13		Material Costs - Stock	D		$60.0
14		Material Costs - Direct			$18.0
19	**Total COGS**				$78.0
20					
21	**Gross Profit**				$22.0
22	**Gross Profit %**				22.00%
23					
24			F		
26	**Total Sales and Marketing Expenses**		Semi-Variable (50%)		$5.0
29	**Total Delivery Expenses (net freight charges recovered)**		Variable		$4.0
32	**Total Warehouse Expenses**		Semi-Variable (25%)		$3.0
35	**Total Occupancy Expenses**	E	Semi-Variable (25%)		$1.0
38	**Total Information Technology Expenses**		Semi-Variable (25%)		$2.0
41	**Total General & Administrative Expenses**		Semi-Variable (25%)		$3.0
42					
43	**Total Operating Expenses**				$18.0
44					
46	**Total Other Income/Expense**	G	Fixed		(1.0)
47					
48	**Net Income before tax**				$3.0
49	**Net Income before tax %**				3.0%
50					
51					
52	*Fixed assumes that the expense is 100% fixed (expense is constant and does not change with sales)*				
53	*Variable assumes that the expense is 100% variable (expense changes proportional to sales)*				
54	*Semi-Variable assumes that the expense is XX% variable (expense changes at % listed relative to sale)*				

A. Data should be entered for each month from January 2019 through March 2020, BUT ONLY IN YELLOW SHADED CELLS

B. The model uses average daily sales to normalize month-to-month sales change

C. Sales values should include discount given to customers and other standard adjustments

D. COGS should include discounts earned and inbound freight and other standard adjustments. Rebates can be applied here or in other income.

E. <u>All</u> expenses should be entered among these six options. User has discretion on where expenses should be applied.

F. Select cost type as described in footnote and also in the Instructions tab.

G. Interest income and gain/loss on sales of assets should be included here. Rebates and interest paid can be entered here if not entered elsewhere.

FTE (Full-time Equivalent)

	B	C	D	E	F
1	A **ONLY ENTER VALUES IN SHADED CELLS**				
2					
3					
4	Total Company Payroll (wages, commissions, bonuses)			B	
5	Total Company Payroll Taxes & Fringes (FICA, workers' comp., unemployment, medical, profit sharing, etc.)				
6					
7	FTE Employees C	Headcount D	Total Wages E	Estimated Burden Cost	Total Cost F
8	Executives and Senior Leadership			$0	$0
9	Sales Management			$0	$0
10	Marketing			$0	$0
11	Pricing			$0	$0
12	Outside Sales			$0	$0
13	Inside Sales			$0	$0
14	Counter Sales			$0	$0
15	Product Specialists & Other Sales			$0	$0
16	Support			$0	$0
17	Delivery/Drivers			$0	$0
18	Warehouse			$0	$0
19	Information Technology			$0	$0
20	Purchasing			$0	$0
21	Accounting/Finance			$0	$0
22	Credit & Collection			$0	$0
23	Human Resources & Payroll			$0	$0
24	Clerical/Office			$0	$0
25	All Other Employees			$0	$0
26	Total	0	$0	$0	$0
27					
28					
29	*No values in this sheet effect model. It is provided to allow for modeling scenarios.*				

A. Nothing from this tab is used in any model calculations. This tab is provided for use as a reference when considering headcount related adjustments relative to changes in revenues.

B. Enter total company wages (all gross W2 amounts) and also enter total benefit costs and payroll related taxes. This ratio will be used to estimate burden cost.

C. Feel free to overwrite the functional areas listed and use only the rows you need.

D. Enter number of employees for each function.

E. Enter total annual wages (sum of annual wages) for each function.

F. Total cost is sum of Total Wages and Estimated Burden Cost. The sum of Total Cost should resemble the sum of the two payroll amounts entered at the top.

Proforma P&L

	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	**ONLY ENTER VALUES IN SHADED CELLS**						*Revenue as a % to Prior Year Revenue for Same Period*								
2				20-Apr	20-May	20-Jun	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	Jan-21	Feb-21	Mar-21
3		Revenue Change		100%	80%	60%	40%	20%	20%	40%	60%	80%	100%	105%	110%
4															
5		Business Days		22	20	22	22	21	21	22	20	22	20	20	23
6		Average Daily Sales		$4.5	$3.6	$3.0	$1.8	$0.9	$1.0	$1.7	$3.0	$3.8	$4.5	$5.3	$5.0
7															
8							Future Performance Estimates								
9	Account	Cost Type		20-Apr	20-May	20-Jun	20-Jul	20-Aug	20-Sep	20-Oct	20-Nov	20-Dec	Jan-21	Feb-21	Mar-21
11	Stock Sales less returns and allowances			$80.0	$58.2	$52.8	$32.0	$15.3	$16.8	$30.6	$48.0	$67.0	$72.7	$84.0	$92.0
12	Direct Sales less returns and allowances			$20.0	$14.5	$13.2	$8.0	$3.8	$4.2	$7.7	$12.0	$16.8	$18.2	$21.0	$23.0
14	Total Net Sales			$100.0	$72.7	$66.0	$40.0	$19.1	$21.0	$38.3	$60.0	$83.8	$90.9	$105.0	$115.0
15															
16	COGS														
17	Material Costs - Stock			$60.0	$43.6	$39.6	$24.0	$11.5	$12.6	$23.0	$36.0	$50.3	$54.5	$63.0	$69.0
18	Material Costs - Direct			$18.0	$13.1	$11.9	$7.2	$3.4	$3.8	$6.9	$10.8	$15.1	$16.4	$18.9	$20.7
23	Total COGS			$78.0	$56.7	$51.5	$31.2	$14.9	$16.4	$29.8	$46.8	$65.4	$70.9	$81.9	$89.7
24															
25	Gross Profit			$22.0	$16.0	$14.5	$8.8	$4.2	$4.6	$8.4	$13.2	$18.4	$20.0	$23.1	$25.3
26	Gross Profit %			22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
27															
28															
30	Total Sales and Marketing Expenses	Semi-Variable (50%)		$5.0	$4.5	$4.1	$3.3	$2.5	$2.6	$3.6	$4.8	$5.5	$6.0	$6.5	$6.3
33	Total Delivery Expenses (net freight charges recovered)	Variable		$4.0	$3.2	$2.6	$1.6	$0.8	$0.9	$1.5	$2.6	$3.4	$4.0	$4.6	$4.4
36	Total Warehouse Expenses	Semi-Variable (25%)		$3.0	$2.9	$2.7	$2.5	$2.1	$2.2	$2.6	$3.1	$3.3	$3.5	$3.6	$3.5
39	Total Occupancy Expenses	Semi-Variable (25%)		$1.0	$1.0	$0.9	$0.8	$0.7	$0.7	$0.9	$1.0	$1.1	$1.2	$1.2	$1.2
42	Total Information Technology Expenses	Semi-Variable (25%)		$2.0	$1.9	$1.8	$1.6	$1.4	$1.5	$1.7	$2.1	$2.2	$2.3	$2.4	$2.4
45	Total General & Administrative Expenses	Semi-Variable (25%)		$3.0	$2.9	$2.7	$2.5	$2.1	$2.2	$2.6	$3.1	$3.3	$3.5	$3.6	$3.5
46															
47	Total Operating Expenses			$18.0	$16.3	$14.9	$12.3	$9.7	$10.1	$12.9	$16.7	$18.7	$20.4	$21.9	$21.4
48															
50	Total Other Income/Expense	Fixed		($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)
51															
52															
53	Net Income before tax			$3.0	($1.3)	($1.4)	($4.5)	($6.5)	($6.5)	($5.5)	($4.5)	($1.3)	($1.4)	$0.2	$2.9
54	Net Income before tax %			3.0%	-1.7%	-2.1%	-11.2%	-34.2%	-30.8%	-14.4%	-7.6%	-1.5%	-1.5%	0.2%	2.5%

A. This tab provides a baseline on profit impacts, which will be used as part of the cash calculation, when revenue projections are entered. Descriptions of the calculations used can be found on the instructions tab.

B. Enter revenue projections in the shaded cells relative to same month prior year. Average daily sales are used for sales and expense calculations.

C. Net profit before tax is considered cash, so if material amounts of depreciation are recorded, it would make sense to exclude those.

Cash (Baseline)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	ONLY ENTER VALUES IN SHADED CELLS														
2															
3															
4															
5			02/29/20	03/31/20	04/30/20	05/31/20	06/30/20	07/31/20	08/31/20	09/30/20	10/31/20	11/30/20	12/31/20	01/31/21	02/28/21
6	Cash on-hand		$10.0	$13.0	$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)	($16.1)
7	Accounts receivable		$150.0	$150.0	$150.0	$122.7	$102.4	$73.0	$39.1	$30.5	$48.8	$79.1	$113.8	$132.8	$150.5
8	Inventory		$200.0	$200.0	$178.7	$173.5	$153.2	$136.9	$138.4	$151.8	$168.8	$187.4	$192.9	$203.9	$211.7
9	Additional cash														
10															
11	Accounts payable		$80.0	$80.0	$63.6	$54.3	$37.2	$19.6	$16.5	$27.1	$43.6	$62.2	$71.2	$81.1	$89.9
12	Current portion of long-term debt		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
13	Monthly reduction in long-term debt principle		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
14	Debt service on new borrowings														
15	Cash adjustment (capital expenditure, etc.)														

A. Enter values from February month-ending balance sheet accounts for Cash, Accounts Receivable (trade), Inventory, and Accounts Payable (to suppliers).

B. If additional cash, such as paid in capital, is expected to be infused into the business, enter the amount in the appropriate month

C. If additional debt is expected to be acquired, enter the corresponding interest expense for each month upon which it will be payable

D. If cash is expected to be used outside of inventory, AR, AP, and operating expenses (including interest) enter in the month(s) upon which it is expected to occur

E. Cash balances are estimated through February 2021 based on net income and expected adjustments to working capital accounts (plus those mentioned in bullets B, C and D above). Details on these calculations can be found on the instructions tab.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ONLY ENTER VALUES IN SHADED CELLS		Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
2	Beginning Cash		$13.0	$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)
3	Unadjusted Ending Cash		$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)	($16.1)
4	Cash Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
5	Adjusted Ending Cash		$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)	($16.1)
6													
7	Margin Adjustment												
8	Current Proforma Margin %		22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%
9	Margin Adjustment in Basis Points												
10	Adjusted Margin Dollars		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
11	Total Margin Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
12													
13	Sales & Marketing Expenses												
14	Personnel Cost Adjustment												
15	Other Adjustment												
16	Total Sales & Marketing Expenses Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
17													
18	Delivery Expenses (expenses related to delivery of merchandise to customers)												
19	Personnel Cost Adjustment												
20	Other Adjustment												
21	Total Delivery Expenses Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
22													
23	Warehouse Expenses (expenses related to receiving and storing goods in the warehouse)												
24	Personnel Cost Adjustment												
25	Other Adjustment												
26	Total Warehouse Expenses Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
27													
28	Occupancy Expenses												
29	Adjustments												
30	Total Occupancy Expenses Adjustments		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
31													
32	Information Technology Expenses (licenses, programming and data processing)												
33	Personnel Cost Adjustment												
34	Other Adjustment												
35	Total Information Technology Expenses Adjustments		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
36													
37	General & Administrative Expenses												
38	Personnel Cost Adjustment												
39	Other Adjustment												
40	Bad Debts												
41	Total General & Administrative Expenses Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
42													
43	Other Income/Expense												
44	Interest Income (Expense)												
45	Gain or (Loss) on Sale of Fixed Assets												
46	Total Other Income/Expense Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

A. The top four values are calculations displaying cash impacts from adjustments made to gross margin, expense and working capital adjustments modeled on this tab.

B. Cash Adjustment shows the cumulative cash impacts from the changes made on this tab. Gross Margin and Expense adjustments carry forward while working capital adjustments are one time occurrences (see instruction tab for more details).

C. Changes in gross margin should be entered as basis points (100 basis points = 1%). A positive value will increase margin.

D. Changes in expense levels should be entered as dollars. A decrease in expenses should be preceded by a negative sign ("-").

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ONLY ENTER VALUES IN SHADED CELLS		Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
2	Beginning Cash		$13.0	$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)
3	Unadjusted Ending Cash	A	$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)	($16.1)
4	Cash Adjustment		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
5	Adjusted Ending Cash		$16.0	$36.7	$54.2	$74.0	$97.2	$99.5	$79.2	$48.6	$17.4	($1.5)	($16.1)
47													
48	Working Capital Adjustments												
49	AR Adjustment (Current Days = 45.6)	B											
51	Change in Days (positive value increases DSO)												
52	AR Cash Conversion		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
53													
54	AP Adjustment (Current Days = 24.8)	C											
56	Change in Days (positive value increases Days to Pay)												
57	AP Cash Conversion		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
58													
59	Inventory Adjustment (Current Days = 49.3)												
61	Change in Days (positive value increases Days of Inventory)	D											
62	Inventory Cash Conversion		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

A. The top of this illustration is the same as the previous slide. Rows 48 through 62 above are found below the margin and expense adjustments on the Modeling tab which are described on the previous slide. Note that all adjustments to working capital accounts will show only in the month they occur, unlike the gross margin and expense adjustments they do not generate changes in subsequent months

B. If you expect accounts receivable days to increase due to customers not paying their bills as promptly, enter a positive value. If you believe you will be able to shorten day sales outstanding for some reason enter a negative value.

C. If you want to estimate additional cash available from paying vendors in a longer period of time, enter the number of days you plan on extending as a positive number

D. Use days increase or decrease to estimate the impact of inventory changes. Note that days inventory will change as sales decline as the formula is calculated using days sales in the denominator.

Additional Information

It is recommended that at least three scenarios are run with this model

- Optimistic – ideal case in terms of both duration and decrease in revenues

- Realistic – between optimistic and pessimistic

- Pessimistic – slightly worse than the worst you expect

The sooner you can identify which scenario is likely to play out, the less drastic adjustments will be, which is the main point of the tool, to identify the actions you will take under various circumstances

You are likely to notice that cash will generally grow as sales decline

- Because cash is increasing during the downturn, it often goes unnoticed that total working capital is decreasing

- "It's not the fall that kills you, it's the stopping," more businesses are likely to collapse on the upturn than the downturn

We have chosen to put this in the public domain in an effort to support our industry and we encourage distributors to contact us with questions or to discuss strategies as we endure this tragic pandemic

- We are also publishing a sales trend index (Pandemic Revenue Impact or PRI) on our website every Monday that tracks weekly distributor sales trends

- We will be publishing articles and webinars regularly on our website that address different tactics and approaches on how to most effectively manage these trying times

- This information can be found at: https://www.ircg.com/services/stress-testing