Toy World, Inc.

Early in January 1994, Jack McClintock, president and part owner of Toy World, Inc., was considering a proposal to adopt level monthly production for the coming year. In the past, the company's production schedules had always been highly seasonal, reflecting the seasonality of sales. Mr. McClintock was aware that a marked improvement in production efficiency could result from level production, but he was uncertain what the impact on other phases of the business might be.

Toy World, Inc. was a manufacturer of plastic toys for children. Its product groups included toy cars, trucks, construction equipment, rockets, spaceships and satellites, musical instruments, animals, robots, and action figures. In most of these product categories the company produced a wide range of designs, colors, and sizes. Dollar sales of a particular product had sometimes varied by 30%-35% from one year to the next.

The manufacture of plastic toys was a highly competitive business. The industry was populated by a large number of companies, many of which were short on capital and management talent. Since capital requirements were not large and the technology was relatively simple, it was easy for new competitors to enter the industry. On the other hand, design and price competition was fierce, resulting in short product lives and a relatively high rate of company failures. A company was sometimes able to steal a march on the competition by designing a popular new toy, often of the fad variety. Such items generally commanded very high margins until competitors were able to offer a similar product. For example, Toy World's introduction of a line of super hero action figures in 1991 had contributed importantly to that year's profits. In 1992, however, 11 competitors marketed similar products, and the factory price of the Toy World offering plummeted. In recent years, competitive pressures on smaller firms had also intensified due to an influx of imported toys produced by foreign toy manufacturers with low labor costs.

Company Background

Toy World, Inc. was founded in 1973 by David Dunton after his release from naval service. Before his military service, he had been employed as production manager by a large manufacturer of plastic toys. Mr. Dunton and his former assistant, Jack McClintock, established Toy World, Inc. with their savings in 1973. Originally a partnership, the firm was incorporated in 1974, with Mr. Dunton taking 75% of the capital stock and Mr. McClintock taking 25%. The latter served as production manager, and Mr. Dunton as president was responsible for overall direction of the company's affairs. After a series of illnesses, Mr. Dunton's health deteriorated, and he was forced to retire from active participation in the business in 1991. Mr. McClintock assumed the presidency at that time. In 1993 he hired Dan Hoffman, a recent graduate of a prominent eastern technical institute, as production

This case was prepared as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

manager. Mr. Hoffman had worked during summers in the plastics plant of a large diversified chemical company and thus had a basic familiarity with plastics production processes.

Company Growth

Toy World, Inc. had experienced relatively rapid growth since its founding and had enjoyed profitable operations each year since 1976. Sales had been approximately $8 million in 1993, and on the strength of a number of promising new products, sales were projected at $10.0 million for 1994. Net profits had reached $270,000 in 1993 and were estimated at $351,000 in 1994 under seasonal production. **Tables A** and **B** present the latest financial statements for the company. The cost of goods sold had averaged 70% of sales in the past and was expected to maintain roughly that proportion in 1994 under seasonal production. In keeping with the company's experience, operating expenses were likely to be incurred evenly throughout each month of 1994 under either seasonal or level production.

Table A Condensed Income Statements, 1991-1993 (thousands of dollars)

	1991	1992	1993
Net sales	$5,213	$6,167	$7,967
Cost of goods sold	3,597	4,440	5,577
Gross profit	$1,616	$1,727	$2,390
Operating expenses	1,199	1,542	1,912
Interest expense	68	75	85
Interest income	20	15	16
Profit before taxes	$ 369	$ 125	$ 409
Federal income taxes	125	43	139
Net profit	$ 244	$ 82	$ 270

Table B Balance Sheet at December 31, 1993 (thousands of dollars)

Cash	$ 200
Accounts receivable	2,905
Inventory	586
Current assets	$3,691
Plant and equipment, net	1,176
Total assets	$4,867
Accounts payable	$ 282
Notes payable, bank	752
Accrued taxes[a]	88
Long-term debt, current portion	50
Current liabilities	$1,172
Long-term debt	400
Shareholders' equity	3,295
Total liabilities and shareholders' equity	$4,867

[a]The company was required to make estimated tax payments on the 15th of April, June, September, and December. In 1993 it elected to base its estimated tax payments on the previous year's tax. The balance of $88,000 was due on March 15, 1994.

Expanding operations had resulted in a somewhat strained working capital position for Toy World, Inc. The year-end cash balance of $200,000 in 1993 was regarded as the minimum necessary for the operations of the business. The company had periodically borrowed from its primary bank, City Trust Company, on an unsecured line of credit. A loan of $752,000 was outstanding at the end of 1993. Mr. McClintock had been assured that the bank would be willing to extend a credit line of up to $2.0 million in 1994, with the understanding that the loan would be completely repaid and off the books for at least a 30-day period during the year and would be secured by the accounts receivable and inventory of Toy World. Interest on the line of credit would be charged at a rate of 9%, and any advances in excess of $2.0 million would be subject to further negotiations. Toy World's long-term debt, which had been raised years ago, had a fixed annual rate of interest of $9^{5}/_{8}$% and was being amortized by payments of $25,000 in June and December of each year.

The company's sales were highly seasonal. Over 80% of annual dollar volume was usually sold between August and November. **Table C** shows sales by month for 1993 and projected monthly sales for 1994. Sales were made mainly to large variety store chains and toy brokers. Although the company quoted terms of net 30 days, most customers took 60 days to pay; however, collection experience had been excellent.

The company's production processes were not complex. Plastic molding powder, the principal raw material, was processed by injection molding presses and formed into the shapes desired. The toy sets were then assembled and packaged in cardboard cartons or plastic bags. Typically, all runs begun were completed on the same day, so that there was virtually no work in process at the end of the day. Purchases on net 30-day terms were made weekly in amounts necessary for estimated production in the coming week. Total purchases in 1994 were forecast at $3,000,000. It was the company's policy to retire trade debt promptly as it came due.

Table C Monthly Sales Data (thousands of dollars)

	Sales 1993	Projected 1994
January	$ 64	$ 120
February	88	140
March	96	160
April	88	140
May	87	140
June	95	140
July	96	160
August	1,251	1,620
September	1,474	1,840
October	1,723	2,140
November	1,965	2,285
December	940	1,115

Mr. Hoffman, the production manager, believed the company would be able to hold capital expenditures during the next year to an amount equal to depreciation, although he had cautioned that projected volume for 1994 would approach the full capacity of Toy World's equipment.

Toy World Inc.'s practice was to produce in response to customer orders. This meant only a small fraction of capacity was needed to meet demand for the first seven months of the year. Ordinarily, not more than 25%-30% of manufacturing capacity was used at any one time during this period. The first sizable orders for the Christmas business arrived around the middle of August. From August to December the work force was greatly expanded and put on overtime, and all equipment was used 16 hours a day. In 1993 overtime premiums had amounted to $185,000. Shipments were made whenever possible on the day an order was produced. Hence, production and sales amounts in each month tended to be equal.

As in the past, pro forma balance sheets and income statements based on an assumption of seasonal production had been prepared for 1994 and presented to Mr. McClintock for his examination. These appear in **Exhibits 1** and **2**.

The Proposed Change to Level Production

Having experienced one selling season at Toy World, Mr. Hoffman was deeply impressed by the many problems that arose from the company's method of scheduling production. Overtime premiums reduced profits; seasonal expansion and contraction of the work force resulted in recruiting difficulties and high training and quality control costs. Machinery stood idle for seven-and-a-half months and then was subjected to heavy use. Accelerated production schedules during the peak season resulted in frequent setup changes on the machinery. Seemingly unavoidable confusion in scheduling runs resulted. Short runs and frequent setup changes caused inefficiencies in assembly and packaging as workers encountered difficulty relearning their operations.

For these reasons, Mr. Hoffman had urged Mr. McClintock to adopt a policy of level monthly production in 1994. He pointed out that estimates of sales volume had usually proved to be reliable in the past. Purchase terms would not be affected by the rescheduling of purchases. The elimination of overtime wage premiums would result in substantial savings, estimated at $225,000 in 1994. Moreover, Mr. Hoffman firmly believed that significant additional direct labor savings, amounting to about $265,000, would result from orderly production. But a portion of the savings would be offset by higher storage and handling costs, estimated at $115,000 annually.

Mr. McClintock speculated on the effect that level production might have on the company's funds requirements in 1994. He assumed that except for profits and fluctuations in the levels of inventories, accounts receivable, and accounts payable, funds inflows and outflows would be approximately in balance. To simplify the problem, Mr. McClintock decided to assume that gross margin percentages would not vary significantly by month under either method of production. That is, cost of goods sold would be 70% of sales in each of the 12 months under seasonal production and would be 65.1% of sales in each of the 12 months under level production. The increased storage and handling costs of $115,000 would be included in operating expenses.

Exhibit 1 Pro Forma Balance Sheets Under Seasonal Production, 1994 (thousands of dollars)

	Actual Dec. 31, 1993	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Cash[a]	$ 200	$ 878	$1,526	$1,253	$ 1,054	$ 915	$ 696	$ 527	$ 200	$ 200	$ 200	$ 200	$ 200
Accounts receivable[b]	2,905	1,060	260	300	300	280	280	300	1,780	3,460	3,980	4,425	3,400
Inventory[c]	586	586	586	586	586	586	586	586	586	586	586	586	586
Current assets	$3,691	$2,524	$2,372	$2,139	$1,940	$1,781	$1,562	$1,413	$2,566	$4,246	$4,766	$5,211	$4,186
Net plant and equipment[d]	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176
Total assets	$4,867	$3,700	$3,548	$3,315	$3,116	$2,957	$2,738	$2,589	$3,742	$5,422	$5,942	$6,387	$5,362
Accounts payable[e]	$ 282	$ 36	$ 42	$ 48	$ 42	$ 42	$ 42	$ 48	$ 486	$ 552	$ 642	$ 686	$ 334
Notes payable, bank[f]	752	0	0	0	0	0	0	0	433	1,741	1,745	1,677	942
Accrued taxes[g]	88	31	(23)	(162)	(251)	(305)	(394)	(448)	(352)	(271)	(126)	33	40
Long-term debt, current portion	50	50	50	50	50	50	50	50	50	50	50	50	50
Current liabilities	$1,172	$ 117	$ 69	$ (64)	$ (159)	$ (213)	$ (302)	$ (350)	$ 617	$2,072	$2,311	$2,446	$1,366
Long-term debt[h]	400	400	400	400	400	400	375	375	375	375	375	375	350
Shareholders' equity	3,295	3,183	3,079	2,979	2,875	2,770	2,665	2,564	2,750	2,975	3,256	3,566	3,646
Total liabilities and equity	$4,867	$3,700	$3,548	$3,315	$3,116	$2,957	$2,738	$2,589	$3,742	$5,422	$5,942	$6,387	$5,362

[a]Assumed maintenance of minimum $200,000 balance; includes excess cash in months when company is out of debt.

[b]Assumed 60-day collection period.

[c]Assumed inventories maintained at December 31, 1993 level for all of 1994.

[d]Assumed equipment purchases equal to depreciation expense.

[e]Assumed equal to 30% of the current month's sales and related to material purchases of $3,000,000 for 1994 as against sales of $10 million. This represents a 30-day payment period. Since inventories are level, purchases will follow seasonal production and sales pattern.

[f]Plug figure.

[g]Taxes payable on 1993 income are due on March 15, 1994. On April 15, June 15, September 15, and December 15, 1994, payments of 25% each of the estimated tax for 1994 are due. In estimating its tax liability for 1994, the company has the option of using the prior year's tax liability ($139,000) for its estimate and making any adjusting tax payments in 1995. Alternatively, the company could estimate its 1994 tax liability directly. Toy World planned to use its prior year's tax liability as its estimate and to pay $35,000 in April, June, September, and December.

[h]To be repaid at the rate of $25,000 each June and December.

Exhibit 2 Pro Forma Income Statement Under Seasonal Production, 1994 (thousands of dollars)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Net sales	$ 120	$ 140	$ 160	$ 140	$ 140	$ 140	$ 160	$1,620	$1,840	$2,140	$2,285	$1,115	$10,000
Cost of goods sold[a]	84	98	112	98	98	98	112	1,134	1,288	1,498	1,600	780	7,000
Gross profit	$ 36	$ 42	$ 48	$ 42	$ 42	$ 42	$ 48	$ 486	$ 552	$ 642	$ 685	$ 335	$ 3,000
Operating expenses[b]	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Interest expense	7	4	4	4	4	4	3	5	12	17	17	14	95
Interest income[c]	2	4	5	4	3	3	2	1	1	1	1	1	28
Profit (loss) before taxes	$(169)	$(158)	$(151)	$(158)	$(159)	$(159)	$(153)	$ 282	$ 341	$ 426	$ 469	$ 122	$ 533
Income taxes[d]	(57)	(54)	(51)	(54)	(54)	(54)	(52)	96	116	145	159	42	182
Net Profit	$(112)	$(104)	$(100)	$(104)	$(105)	$(105)	$(101)	$ 186	$ 225	$ 281	$ 310	$ 80	$ 351

[a]Assumed cost of goods sold equal to 70% sales.

[b]Assumed to be same for each month throughout the year.

[c]Toy World expected to earn a 4% annualized rate of return on average monthly cash balances.

[d]Negative figures are tax credits from operating losses, and reduced accrued taxes shown on balance sheet. The federal tax rate on all earnings was 34%.