

# Income/Outcome™ Analysis Of Apparel Companies

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## Abstract

*Guiding a business entity through the waters of the ever-changing global economy requires paying attention to a wide range of activities and issues. Within the financial area alone, the large number of traditional financial ratios that need to be in balance present an impression of the multitude of indicators that must be considered simultaneously.*

*The paper demonstrates the use of a management-training tool, the Game of Income/Outcome™, to visually display the financial situation of different apparel companies. The game board is used to simultaneously show cash flow and profitability aspects, and the paper shows how this visual tool enhances financial ratio analysis. In the paper apparel companies are analyzed using traditional financial analysis and displaying the company situations on the game board. Apparel manufacturing and retailing companies are analyzed.*

## 1. Introduction



Every business must balance long term profitability and short term cash flow. Reaching this balance is a topic in most management textbooks as well as in discussions among practitioners, and it is a goal of many analytical tools utilized in corporate analyses.

Most financial ratios used in financial analysis of annual reports tend to look at one specific aspect of the company in isolation. For that reason it is usually recommended to consider a group of ratios and not just rely on one particular indicator<sup>1</sup>.

The idea of the Balanced Scorecard (Kaplan and Norton, 1992) has this interdependence of functions as a set of measures brought into the forefront of many managers' minds. Running a company is compared to flying a plane, and the various measures are compared to dials and indicators in the cockpit.

Using ratios and numbers has the advantage of very precise results and a great range of flexibility in terms of what business aspects are combined for the ratios. At the same time it is known that too many indicators and instruments can be a distraction and may lead to the pursuance of sub-optima. Too much precision and detail can stand in the way of strategy. For that reason it is desirable to find a limited number of key indicators that allow the captain to steer the company without getting drowned in a sea of data and information. In many cases a visual representation is desirable because it allows seeing the big picture, the general trends, and the overall strategy of a business. Charts serve this purpose, but due to their two-dimensional structure they can only show partial aspects of any business.

This paper describes the use of a gameboard used in the business simulation Game of income/outcome™ (Andromeda Training, Inc., 1999) to display and analyze the business situation of a company. One of the key elements of the game simulation is the balance between cash flow and profitability, between the short term and long term aspects of the business. The gameboard can provide a visual representation of this balance.

<sup>1</sup> See practically any book on financial analysis or cost analysis, e.g., Helfert, Higgins, Moxter, Leffson, Emery and Finnerty, VanDerbeck, or Hilton, Maher, and Selto.

## **2. Traditional Financial Analysis**

Traditional financial analysis presents specific items from the balance sheet and the income statement and puts them in relation. Such ratios allow a very precise analysis of relative changes over time, and thus they provide information about the financial and capital structure of a company. Such ratios usually focus on a particular aspect of the business, e.g., profitability of assets or certain components of assets, liquidity, capital structure, leverage, etc. Used in combination, some of these ratios are designed to integrate the company's different functions, like the DuPont system of ratios:

Return on Equity = Profit Margin X Asset Turnover X Leverage

In this case three aspects of the business, marketing, operations, and finance, are represented by different ratios, and comparing these ratios over time can give an insight in the structural development of a company.

The number of financial ratios increases rapidly as soon as specific aspects of a business are evaluated. Helfert (1997) mentions 48 different ratios in an overview table; Bruner et al. (1998) use 19 different ratios in an example for ratio analysis. Each ratio serves a valid purpose, and viewed in isolation it might give misleading information. Yet the great number of indicators may also lead to confusion. Ratios allow very precise analysis, and they may indicate even very small changes. For a more strategic look at a company structure many people use charts, and they allow seeing broader trends, tendencies, and shifts that are more strategic in nature. However, charts tend to display only specific, individual aspects, and a visual representation of a company by charts results either in a confusingly large number of separate charts, or in a low number of very confusing charts. In either case, the strategic aspect gets lost.

## **3. Income/Outcome™ Analysis**

The Game of Income/Outcome™ is a simplified, financial model of a business (Andromeda, 1999). During the course of the game, participants manage a company, make decisions, etc. Just like in real life, every business transaction is reflected in a financial transaction, and all financial transactions are mapped out on the gameboard. Thus the income/outcome™ gameboard becomes a visual reflection of the company situation at any given moment in time. In particular, the gameboard allows seeing potential cash flow problems, the leverage of the company, the capital structure, and some key activity ratios. It provides a visual representation of many of the financial ratios simultaneously.

The gameboard (see Figure 1) displays equity and debt as well as future payments and income that will become due. This presents a visual image of the time dimension of money. It also displays investments in building, land, and equipment as well as inventories, and it reflects overhead costs and costs-of-goods-sold.

While the purpose of the Game of income/outcome™ is to provide business literacy training for members of corporations at all levels and in all functions, this paper demonstrates the possibilities of analyzing real corporations with the help of the gameboard. The gameboard provides a visual representation of a company at a strategic level without the detail of charts and tables that may stand in the way of strategy.

### **3.1. Company Analysis With Financial Ratios**

The financial statements from the annual reports of three apparel companies were summarized (see tables in Appendix I), and some key ratios were calculated. The numbers were calculated over the past two years (2000 and 2001), and the results are displayed in the following charts.

The companies' activities are not identical:

- The Limited Corporation creates and manages apparel brands and some personal care products through its own distribution channels. The Ltd. outsources production, but manages the brands and the distribution as well as the retail activities.
- J.C. Penney Corporation is a department store chain with an emphasis on soft-goods and fashion, but it also entertains a number of other activities (namely the Eckerd Drug pharmacy chain as well as a substantial financial services component). JCP maintains a few own, in-house brand names, but mostly fills traditional retail functions. These retail functions include catalog and internet activities.
- VF Corporation creates and manages brand name apparel products as well as some other soft-goods (e.g., outdoor related textile products). VF typically maintains neither own retail establishments nor production facilities. The business activities are mostly concerned with managing the brands through marketing and product innovation, with sourcing and coordinating the distribution of the products, and working with partners at all retail channels.

The developments of the three companies in terms of key ratios used by the Du Pont Analysis are shown in Figures 2, 3, and 4, for the years 2000 and 2001.

The Limited Corporation (see Figure 3) improved the profit margin significantly in this time period while dropping slightly in asset turnover rate and maintaining a leverage of 1.7. The dropping asset turnover rate indicates that corporate assets were not reduced at the rate that sales went down from 2000 to 2001. The Limited's engagement in retail and the outsourcing of production results in a relatively high turnover rate compared to manufacturing entities, but the balance sheet reveals that the company has as much money invested in equipment as in merchandise. This indicates a significant investment in infrastructure, since production itself is outsourced.

J.C. Penney (see Figure 3) moved out of the loss-zone into a modest profit margin, improved on its asset turnover rate, and reduced the leverage slightly. The profit margin is considerably lower than for VF Corporation or The Limited, and the company is also leveraged much higher. At the same time the company is considerably bigger than the other two companies evaluated: In terms of sales, JCP is three times larger than The Limited, and about six times larger than VF Corporation. At the same time the asset turnover rate is lower than for The Limited, but slightly increasing. Investments are primarily in merchandise as would be expected for a retailer.

VF Corporation (see Figure 4) faces a reduced profit margin, indicating some price problems in the market. The asset turnover rate is lower than for the other two companies, which in part is due to the fact that VFC has relatively high accounts receivable. While The Limited and JCP as retailers get their revenues immediately, VFC finances their retail partners. Since VFC outsources production, there are very limited investments in equipment, but there are significant investments in land and buildings. The leverage remained constant over the two years and is marginally higher than for The Limited.

Comparing the Return on Equity (see Figure 5), VF Corporation showed a decrease over the observed time, while The Limited and JCP improved the Return on Equity. In the case of JCP it is a considerable increase, but the return is still rather marginal, especially for a company this size. Like in many other cases recently, the results for JCP show that the size of a company is no guarantee for major fluctuations in income and profit.

For companies that are primarily engaged in retail or trade rather than production the Inventory Turnover Rate is of particular importance. This is even truer if the merchandize has a limited shelf life as is the case in apparel. The Inventory Turns for the three analyzed companies are shown in Figure 6, and The Limited demonstrates a considerably higher rate than the other two companies. All three companies show some improvement in inventory turns from 2000 to 2001. Since the three companies are not in the same business, it would be important to compare them to direct competitors to see how they are doing relatively to their "cohort". For example, JCP has higher inventory turns than the department store company May (in 2001: 4.94). VFC's inventory turns are the lowest in this particular group, but since the company conducts different business functions than JPC or The Limited, this comparison does not necessarily imply any significance.

Typically, an analysis of financial ratios goes into far more depth, but the brief description of the above mentioned numbers is only meant to recall the great number of different indicators that are needed to obtain an impression if a company is balanced or not.

#### **4. Company Representation With The Income/Outcome™ Gameboard**

For both years, all three companies' annual reports are displayed on the income/outcome™ gameboard in Figures 7 through 12. Since the gameboard represents a simplification and abstraction of the detailed information contained in the financial statements, several groups of numbers are combined.

One of the first issues to address when simulating a company on the gameboard is the problem of scale. Chips represent the numbers in the financial statements, and for the representation of the two companies in this case one chip represents a value of \$20 million. The different colors of the chips represent different concepts, e.g., silver chips represent cash and receivables, black chips represent equity and retained earnings, red chips indicate liabilities, copper chips represent fixed assets, and blue or green chips represent inventory and other short term assets.

Presenting the company financials on the gameboard gives a visual representation of where money is invested as well as how the income stream balances the payment due stream. The representation of the sales volume and the Cost of Goods Sold on the right side of the board allows a visual comparison of the variable costs (COGS) and the fixed costs (GSA). In the case of JPC numbers were used to display the sales volume and the COGS because of the magnitude. Normally, one would use a different scale (e.g., one chip equals \$100 million), but for this paper it appeared useful to apply the same scale for all three companies. Displaying sales and COGS on the board is only done for display purposes. During game simulations the sales income is of course already represented as cash on hand or receivable cash and the COGS are inventory chips that are removed from the board at the time of a sale.

Figures 7 and 8 show the i/o™ gameboard for The Limited for the years 2000 and 2001. There does not appear to be much change in the magnitude of inventory, equipment value, or investments in land and buildings. The increased amount of cash on hand is shown rather clearly on the gameboard as well as the notable increase in intangible assets. Intangible assets like goodwill occur for example if a company purchases a business for more money than its book value. On the books this appears as a value, but it is not cash or easily convertible into cash as accounts receivable. In difference to tangible assets like inventory or buildings, intangible assets like goodwill have a value that is highly dependent on the business situation itself, i.e., if business is good the value is strong, but if business is weak the value does not represent good collateral for debt financing. Since the company is active in the retail trade, it is not surprising that the accounts receivable are very limited.

In terms of debt structure, The Limited shows more short term debt than long term debt, which is in line with the amount of short term assets (inventory). The capital stock and the retained earnings indicate a good earnings history and compared with the debt a solid financial structure.

Two streams are moving towards the cash circle: accounts receivable and debt. During the game viewing these two streams represent the cash flow situation of the company. For a company board the timelines are not identical. In the case of retail activities it is also important to note that most sales are on a cash or cash-equivalent basis, so that future sales income can immediately be used towards debt payments.

The right side of the gameboard shows sales and costs of goods sold (about 66% for 2000 and 65% for 2001), which reflects the variable cost structure of the company, and the general, sales, and administrative costs (GSA or SGA), showing the fixed cost of the company. Finance cost is shown separately on the board, and at the bottom of the right side the profit is displayed. The distinction of product related cost and corporate overhead cost as variable and fixed is not always correct (cf. Hergeth, 1995 and 1996), but at this level of abstraction quite acceptable.

Viewing the boards for the two displayed years, there is no major shift in activity other than the increased amount of cash on hand. This increase in cash is also true for the other two companies.

The two gameboards for J.C. Penney (Figures 9 and 10) demonstrate an even greater increase in cash on hand (2001 three times the holdings of 2000), and overall the board shows a significantly greater magnitude of operation.

On the asset side the holdings in land and buildings are greater than in equipment and growing from 2000 to 2001 while equipment investments are slightly shrinking. JCP managed to reduce inventory while the sales volume went up. On the gameboard the numbers for Sales and CoGs reflect the number of chips, not million US\$. Accounts receivable are much higher than for The Limited, but still extremely low compared to the sales volume.

The debt structure at JCP is quite different from The Limited: There is a significant amount of long term debt, but all the short term debt is in the form of accounts payable. This is quite typical for retailer companies: The suppliers (in this case the textile or apparel industry) finance the inventory at the retail level. The same debt structure is displayed at the VF Corporation, just not at the same magnitude. The Limited Company appears vertically more integrated, what may account for the fact that short term financing is done through traditional finance entities rather than suppliers.

JCP's equity looks quite strong; however it is offset by long term debt of the same magnitude. This is of course a result of profits that are too low for a long period of time and significant losses in the past. Changes performed by the company are apparently leading into the right direction: Sales increased with reduced cost of goods sold, indicating lower variable costs. At the same time the inventory was reduced, leading to an improved asset turnover rate. Other cost saving measures lead to a reduction in overhead cost (General, Sales, and Administrative) as well as a reduced finance cost. Together these measures improved the bottom line at JCP by over \$800 million. Given the size of the operation these improvements of course have to continue since a profit margin of 0.3% or a Return on Equity of 1.6% is not acceptable in the long run.

Another important aspect of JCP's gameboard is the high investment in intangible assets. To a large degree they are associated with the value of the Eckerd Drugs brand name. A realization of this value depends on the profitability of this acquisition or on the proceeds that can be received through the sale of such a business unit. In the case of JCP the intangible assets also include substantial amount of other (not more specified) assets.

VF Corporation (see Figures 11 and 12) shows a similar relative increase in cash as the other two companies. Since the VFC outsources production and does not engage in retail activities, there are almost no investments in equipment. There are however some holdings in real estate (land and buildings). While such investments make good financing sense when it comes to providing collateral there may be more profitable investments possible for such funds.

Most of the company's assets are held in form of intangible assets, i.e. costs incurred in excess of the book value of businesses acquired. Since VFC is in the business of brands and brand name companies, trading such entities leads to a relatively high portion of such assets. Their true value in the future is of course dependent on how well these businesses and brands are managed. It should be noted that the value of the intangible assets is roughly equivalent to the company's retained earnings. This very high investment in brand names and business value results in VFC's low asset turnover rate, as it would be more typically expected by a manufacturing company. Breaking down the assets by groups on the board shows how for VFC the investment in brands is equivalent to long term investments in equipment in, for example, chemical manufacturing companies.

The debt stream moving towards the cash circle consist mostly of long term debts and accounts receivable, indicating that VFC uses suppliers to finance the inventory. Very differently from JCP, however, the company has a significant stream of accounts receivable moving towards the cash circle as well. This demonstrates the position of VFC within the textile pipeline: VFC does not sell directly to the ultimate customer, and therefore finances activities downstream by extending payment terms.

The cost structure for VFC demonstrates variable costs (CoGs) of approximately 68% and relatively high fixed costs (GSA). The finance costs are almost as high as for The Limited even though the sales volume is

considerably lower. This is due to the fact that VFC performs a financing function for the businesses downstream: Financing approximately \$600 million to \$700 million accounts for the majority of finance cost, something The Limited of JCP do not have to consider at the same rate.

Profitability has gone down from 2000 to 2001, but is above the other two companies analyzed in this paper. With the high degree of fixed assets (real estate as well as intangible assets) a possible concern might be the lack of flexibility and resulting vulnerability to a significant loss of sales. This is especially true since the “variable” costs of goods sold did not react flexible to the minor reduction in sales volume of 4% from 2000 to 2001.

## 5. Summary And Conclusions

The income/outcome™ gameboard provides a complete visual representation of the financial results of a company. This provides a strategic perspective of the financial situation as well as the business situation that is very difficult to obtain from a financial ratio analysis. A model always tries to provide an abstract representation of reality. Financial ratios and graphs used in traditional ratio analysis provide very precise numbers and a very high level of abstraction. The i/o™ gameboard provides less abstraction, so that it becomes easier to relate to the strategic picture of a company. Computerization has made it easier to provide ever more detailed information in real time. It is important to also utilize tools that represent the big picture and the strategic view to lead a company, and visual representation provides this opportunity.

In analyzing the three companies The Limited, J.C. Penney, and VF Corporation the i/o™ gameboard analysis showed not only the differences in company situation and potential areas to look out for, but it also provided an interesting view of what a company looks like in different levels of the textile pipeline. The income streams and accounts receivable look very different for companies active at the retail level than for those active upstream in the pipeline. 📖

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## Appendix 1

Table 1: Financial Data For The Analyzed Companies

(in mio \$)	Limited		JC Penney's		VF	
	2000	2001	2000	2001	2000	2001
<b>Assets</b>						
Cash/Bank	564	1375	944	2840	119	332
Accounts Receivable						
1/3 on 30 days	30	25	280	230	220	200
1/3 on 60 days	30	25	280	230	230	200
1/3 on 90 days	34	29	333	238	266	202
Inventory						
Raw Material						
WIP	1157	966	5269	4930	1124	913
FGI						
Equipment	986	972	2165	2002	111	81
Land & Building	367	365	2949	2987	563	563
Other (above cash)	493	611	3320	4382	1472	1417
<b>Debt &amp; Equity</b>						
Accounts Payable						
50%	130	120	2000	2000	340	252
50%	143	125	1877	1465	405	484
ST Loans	581	798		15	261	78
Other	372	406	250	1012	216	229
LT Loans	400	250	5448	5179	905	904
Taxes	146	276	3800	2241	0	0
Stock	299	269	3693	3693	995	995
Retained Earnings	2168	2552	2636	2573	1334	1221
Sales	10105	9363	31846	32004	5748	5519
COGS	6668	6110	23031	22789	3842	3799
Depreciation						
Factory OH						
GSA – equal shares	866	918	8637	84459	1352	1324
Finance Cost	127	98	427	386	89	93
<b>Net Income</b>	4285	519	(705)	98	260	138

Source: Annual Reports of the companies, summarized and arranged for i/o™ gameboard

Figure 1: The Income/Outcome™ Gameboard



Figure 2: Key Financial Ratios for The Limited

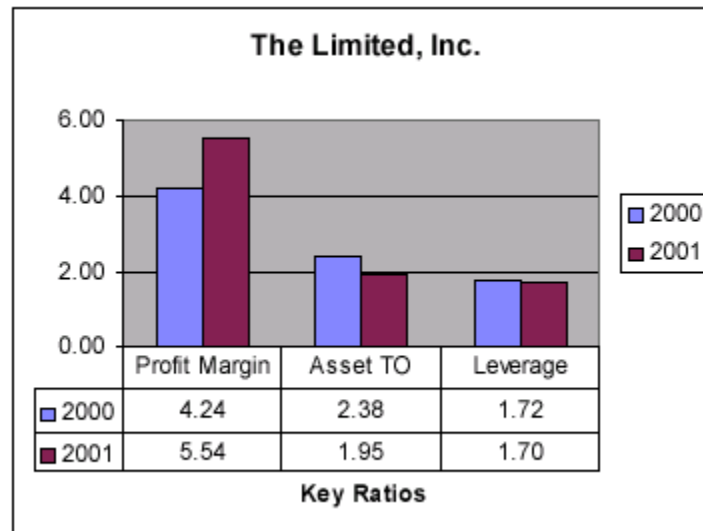




Figure 3: Key Financial Ratios for J.C. Penney

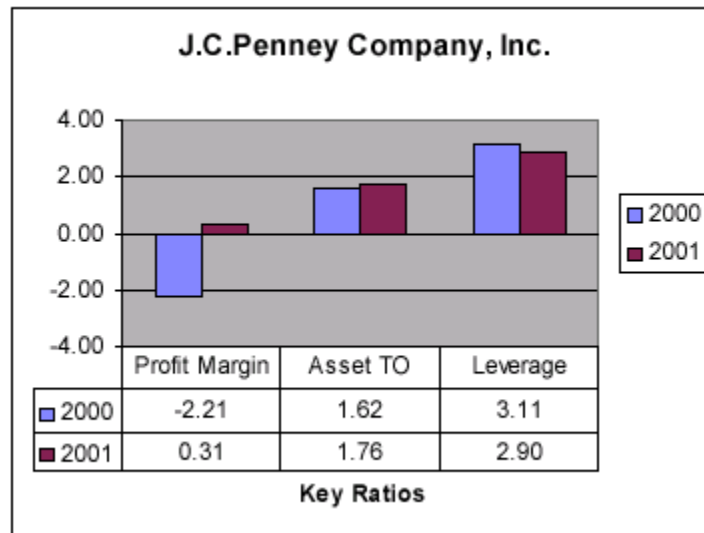


Figure 4: Key Financial Ratios for VF Corporation

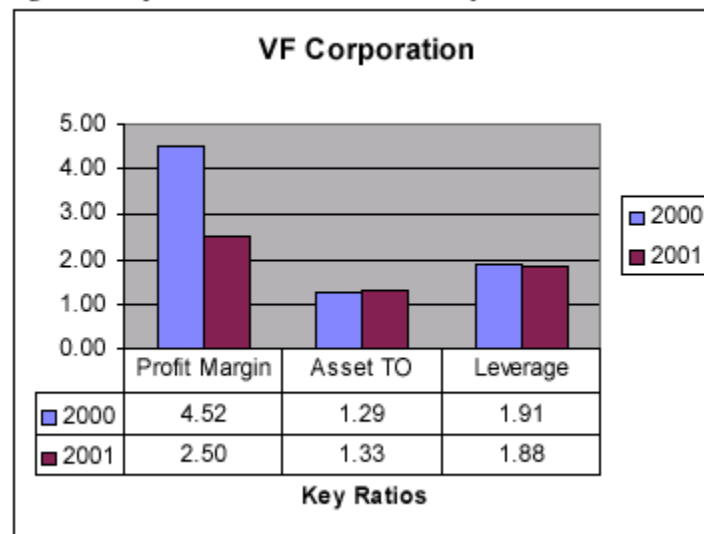


Figure 5: Return on Equity Comparison

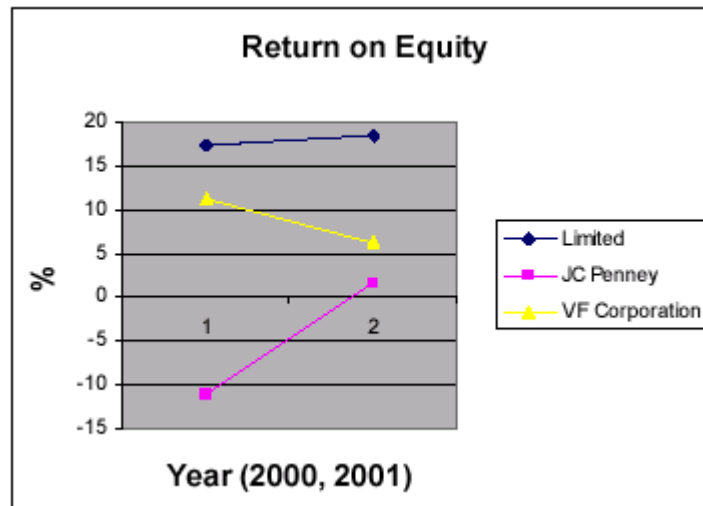


Figure 6: Inventory Turnover Rates Comparison

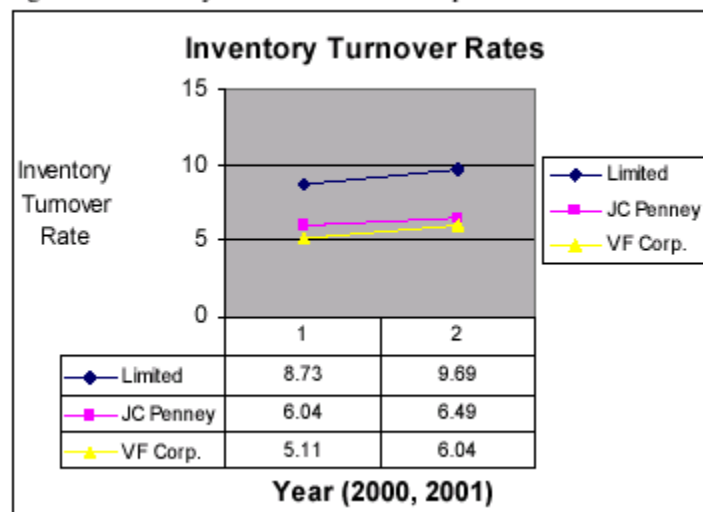


Figure 7: i/o™ gameboard The Limited, 2000



Figure 8: i/o™ gameboard The Limited, 2001



Figure 9: i/o™ gameboard J.C. Penney, 2000



Figure 10: i/o™ gameboard J.C. Penney, 2001



Figure 11: i/o™ gameboard VF Corporation, 2000



Figure 12: i/o™ gameboard VF Corporation, 2001



Notes