SHAKER INVESTMENTS

A RESEARCH-DRIVEN GROWTH APPROACH TO EQUITY PORTFOLIO MANAGEMENT

Volume 1 Issue 1

Note From Edward Hemmelgarn

It is my pleasure to introduce the first issue of the Shaker Investments Newsletter. This quarterly newsletter has been created specifically with our clients in mind. I believe you will find it informative and to the point.

In keeping with Shaker's focus on intensive research, each issue will contain comments from one of our equity analysts. In this issue we include a look at the investment implications of human genome sequencing by Karen Mroz-Bremner, a Ph.D. in Genetics, who cautions that the rewards of genome research may not be immediately forthcoming.

Each issue will also include a brief interview with a senior officer of a growth company. In this issue we interview Steve Sanghi, President and CEO of Microchip Technology Inc., a leading provider of field-programmable microcontrollers that are embedded in thousands of appliances and machines. Steve describes how the applications for these chips will continue to grow at an accelerated rate.

We welcome you as a reader and invite your comments. If you have any questions or desire additional information about the topics covered in our newsletter please contact us. Please note that we have moved our Cleveland office. Our new address and phone numbers can be found on the reverse side.

Analyst's View

The Impact of Genome Sequencing

Karen Mroz-Bremner, Ph.D.

Despite all the media hype, it is unlikely that the sequencing of the human genome will result in dramatic advances in drug therapy in the next few years. Genome sequencing may indeed shorten the R&D process but investors should be aware that a drug will still need years of laboratory research as well as safety and efficacy studies in humans before FDA approval. Never-theless, in the next five years we can expect the pharmaceutical industry to capitalize on previous genomic research and produce a few drugs that will target diseases more precisely, partially based on knowledge of why drugs work in some people and not others.

> *"in the next five years we can expect the pharmaceutical industry to capitalize on previous genomic research and produce a few drugs that will target diseases more precisely"*

There are several prominent names at the forefront of genomic research, but it is far too early for investors to confidently identify the long-term winners. This will be especially true if we witness the rapid rise of companies that either do not exist or barely graze the radar screen today. This would be similar to the emergence of a whole generation of entrepreneurial companies that harnessed the potential of the silicon chip over the past three decades, including such luminaries as Intel, Microsoft, Sun Microsystems and Oracle. However, by looking at the drugs that biotechnology companies have on the market and under development, —and the scientific research programs they are pursuing—investors can take educated guesses as to which biotechnology companies are well positioned for the brave new genomic world.

Investors are cautioned not to be too quick to discount the large pharmaceutical companies. The massive strength of their sales and distribution networks shouldn't be underestimated. They, too, will capitalize on the study of genomics, through internal research as well as by acquiring promising new drugs through acquisitions and partnerships with biotechnology companies. These partnerships work well for both parties providing large pharmaceuticals with drugs for their pipeline and adding sales muscle to biotechnology companies.

The recent dramatic swings in the prices of biotechnology companies have created great opportunities for both biotechnology companies and investors. Many companies' stock prices have more than doubled, plunged precipitously, and then rebounded, all in a matter of months. The huge rise of biotechnology stock prices earlier this year enabled many companies to successfully raise significant amounts of cash through initial public offerings (IPOs) or secondary financing. Investors also saw buying opportunities as prices fell dramatically this spring.

Although the recent rise in stock prices has made many stocks look expensive there will still be numerous opportunities for investors, as stock prices will almost certainly remain volatile.

PORTFOLIO AT-A-GLANCE

As of June 30, 2000

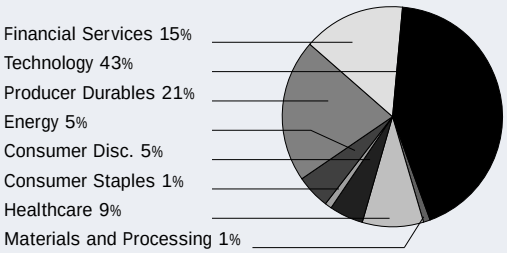
TOP 10 HOLDINGS

1. Cognex Corporation
2. RF Micro Devices
3. Xilinx Inc.
4. Microchip Technology
5. NOVA Corporation
6. ATMI
7. KLA-Tencor Corp
8. BMC Software
9. United Therapeutics
10. Affiliated Computer

AVERAGE PORTFOLIO CHARACTERISTICS

Number of Holdings	**30**
Wtd Forward P/E	**32x**
Wtd Sustainable Growth Rate	**38%**
Median Market Cap	**$3.3 bil**

SECTOR WEIGHTINGS*



*based on sector definitions by Frank Russell Co.

Executive Insights

Ubiquitous Microcontrollers

Steve Sanghi, President and CEO, Microchip Technology Inc.

Q: Steve, Microchip Technology's stock price hasn't been as volatile as the semiconductor industry as a whole, over time. Why?

A: *One reason, certainly, is that the number and diversity of applications for our embedded, field-programmable microcontrollers continues to expand unabated. That has fueled our growth even during those periods, like 1995 to 1998, when many semiconductor manufacturers with a commodity focus experienced significant softness in the market.*

Q: Can you give us an idea of the extent of this diversity?

A: *The bulk of our sales is spread across five broad categories. About 35% of our business today is focused on consumer appliances. Microcontrollers are embedded in just about any home appliance that you can name, from garage door openers and toasters, to refrigerators, boilers and washer/dryers. Another 20% of our business is keyed to the automotive industry. We sell to every major automobile manufacturer and supplier around the world.*

Q: How many microcontrollers are embedded in a typical car?

A: *Over 20. High-end cars may have over 50, and that will increase as more applications are identified. A number of manufacturers will be using our products to facilitate crash sensors in their 2001 models.*

Q: What segments account for the remaining 45% of Microchip's business?

A: *Telecommunications, industrial applications and office automation equipment each represent approximately 15% of our business today. The telecom industry uses our chips in cell phones and cell phone accessories, as well as in desktop phones, coin phones and other more traditional equipment.*

Q: Can you give us some examples of industrial applications?

A: *Gas pumps, industrial air-conditioning systems, process control equipment, to name a few. Millions of people use our microcontrollers in hotels rooms, and never even know it. Our chips are in the hotel door locks, the televisions, the remotes, the on-command movie devices, the telephones, the alarm clocks, the irons, hairdressers and thermostats… the list goes on.*

> *"More often, we work with customers who identify an opportunity. We stay close to customers, and make a great effort to understand their particular needs."*

Q: Where are your chips used in the office automation segment?

A: *Let's take PCs as an example. Every PC has one microprocessor, but may have from 12 to14 microcontrollers. They're in the keyboard, the mouse, the printer, the disk drives, the sound cards and other applications.*

Q: Who are the major players in the embedded, field-programmable microcontroller market?

A: *By far, the largest presence is Motorola, with about 21% market share. Since 1997, we have been number two, with a 9% share, and expect to increase that lead over our other competitors. A recent survey asked manufacturers whose microcontroller architecture they plan to embed in their future products. We ranked number one. This suggests that the next several years will be very interesting. If you look at just field programmable microcontroller market share, then we are #1 today. It is because the majority of our competitors' business is non-field programmable (hard-wired) microcontrollers."*

Q: Where is MicroChip Technology's advantage?

A: *There are a number of factors. First, we're the only pure play in this market. Embedded microcontrollers are still a small portion of the business of companies like Motorola and Intel. This means that no one has our focus or commitment. Second, we introduced the first successful RISC-based microcontrollers in 1990, which provided substantially greater capabilities at no increase in cost. In this market, we remain the RISC leader.*

Q: How do you identify new applications for your microcontrollers?

A: *There are times when we can foresee future applications. More often, we work with customers who identify an opportunity. We stay close to customers, and make a great effort to understand their particular needs. There also are applications that take us by surprise. We never envisioned that our chips would be used in remote ignitions for cars in Canada and other cold regions.*

Q: Steve, why do you now manufacture over 150 off-the-shelf field programmable chips? Is there a point where you will be creating too much product?

A: *If there is, we haven't reached it yet. Some applications require relatively simple chips. Many applications are extremely complex. Also, the life cycle of one of our microcontrollers generally exceeds seven years, so we do not have constant attrition due to rapid obsolescence.*

Q: One final question, Steve. What regions of the world are responsible for your greatest growth?

A: *Right now, it's nearly an even split between the U.S., Europe and Asia. The demand for microcontrollers is truly global and ubiquitous.* S

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