PLATINUM ASSET MANAGEMENT

The Platinum International Technology Fund

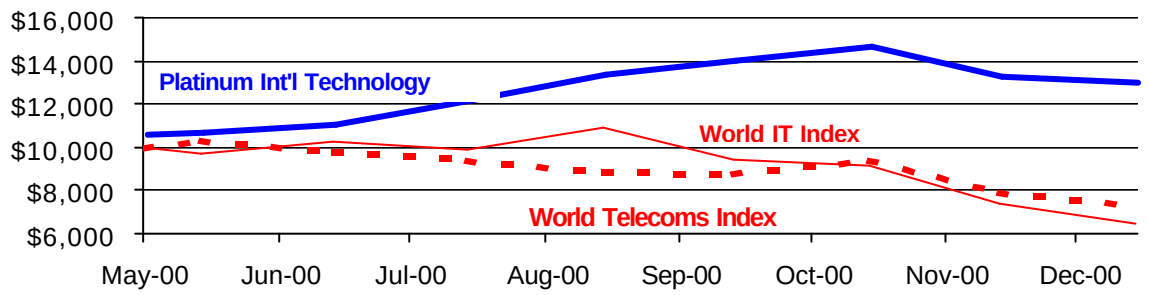
Quarterly Report

31 December 2000

Redemption Price: $1.2330 Fund Size: $10 Million

Performance

CUMULATIVE PERFORMANCE SINCE INCEPTION (18 MAY 2000 – 31 DECEMBER 2000)



Technology and telecom stocks continued to perform poorly with the MSCI Information Technology Index down 32% and the MSCI Telecom Services Index down 17% during the quarter. Although weakness was evident across the entire spectrum of technology and telecom stocks, the downward spiral was led by internet software and services (-56%), semiconductors (-42%) and data networking (-41%). Over the quarter, the Platinum International Technology Fund fell 8.1%.

The Fund was not immune to the collapse in the market with significant falls across the portfolio, and in particular the semiconductor holdings such as AMD and National Semiconductor. However, a substantial portion of the losses were offset from gains made on short positions in market favourites such as Sun Microsystems, EMC, Broadcom, and Siebel Systems. Good returns were earned from Peoplesoft which continued to perform well and Silicon Valley Group which was taken over early in the quarter.

Commentary and Outlook

The technology and telecom sectors have been buffeted by ongoing reductions in earnings forecasts as growth in the new economy has failed to live up to the enormous expectations that had been created. There have been a variety of disappointments. At the most extreme, many "new economy" business models where significant cash losses have been incurred in the hope of quickly building a significant subscriber base or annuity stream have failed as capital markets became risk averse and refused additional funding. The result has been a large number of bankruptcies in the dot com space but also amongst the new telecom service providers. At the milder end of the spectrum, slightly lower growth rates in products such as mobile phones or personal computers have not only affected the manufacturers of those products, but had significant effects on suppliers of semiconductors and ultimately manufacturers of semiconductor capital equipment. Even in these areas where the setbacks have been more measured, the impact on stock prices has been

large due to the very high valuations these companies had been accorded.

The personal computer market has slowed significantly; with estimates for growth during 2000 now at only 12% (and flat for the fourth quarter) versus growth rate of 24% in 1999. There are a number of issues that have retarded growth. In the consumer market, the dramatic falls in selling prices were put on hold as manufacturers faced component shortages and thus concentrated their output on higher priced models. Furthermore, while broadband services (such as cable modems and DSL lines that provide high speed access to the internet) are being rolled out, the numbers are still very small with only six million subscribers in the US market today. Thus without any pressing need for a more powerful machine, and with prices holding up, the consumer has been reluctant to upgrade.

In the business market, growth has been disappointing as companies have seen little need to upgrade to the new Windows 2000 operating system for the moment, and with a weak profit environment next year, upgrading personal computers is likely to be seen as a low priority when IT capital expenditure budgets are under pressure. A similar story can be told for mobile phones where global shipments for 2000 are now expected to grow 40% to 400 million units versus expectations earlier in the year for 450-500 million. The disappointment is partially a result of unrealistic initial expectations but also due to delays in the development of third generation data services and the new high end handsets.

The slower growth in personal computers and mobile phones, as well in other areas such as telecom equipment had serious ramifications for the supply chains in these industries. Earlier in the year tight supply of components had resulted in over ordering and hoarding so when the slowdown hit, not only were the companies awash in finished product but also had excess supply of components. The impact on the sales at the semiconductor companies has been devastating with some seeing sales fall by as much as 10% in the fourth quarter. Furthermore, the previous robust capital expenditure plans of the semiconductor companies have been wound back as the plans had been based on a growth profile artificially boosted by the over-ordering of customers. It is somewhat perverse that one of the biggest stories of the IT revolution was lean supply chains driven by B2B exchanges and yet the semiconductor industry has still been caught out by a massive inventory cycle!

The final nail in the world of information technology has been the sudden slowdown in the US economy during the fourth quarter. The profits of “old world” companies are deteriorating at an alarming pace which means corporate information technology budgets are likely to come under review. This is especially the case now as the pressure companies felt a year ago from the emergence of dot com competitors recedes. This has placed a major question mark over the last remaining strongholds of the bull market, enterprise software, hardware and storage.

This is not to say that the entire bull market in technology was a mirage. Concepts such as business-to-business e-commerce are very real with massive benefits to companies from not only automating processes such as order entry and payments, but also from allowing customers and suppliers to co-ordinate their efforts more closely thus reducing the level of inventories in the supply chain. Although there has been much fanfare with many industry consortiums launching marketplace exchanges, these projects are in their infant stages. Accompanying infrastructure for online commerce such as *digital certificates* that allow for electronic documents to be digitally signed and online payment systems must also be implemented. At the height of the boom in technology stocks, it was estimated that the annual spending on software for business-to-business e-commerce projects would exceed $50 billion by 2005 versus less than $500 million in 1999. While difficulties in implementing such projects today may be causing people to question the validity of such estimates, it is still clear there will be significant investment globally in these areas over the next decade.

In other areas, innovation will continue to drive demand for new products. The deployment of *gigabit ethernet* to increase the bandwith of corporate networks is not only a market estimated to grow from $200 million today to over $1.5 billion in three years time, but it will also allow deployment of multimedia applications such as video conferencing in the corporate environment. *DSL and cable modem* installations that provide high speed internet connections for residential users are expected to grow from approximately four million to over 20 million. Both of these developments will give a new impetus for growth in the mature PC market. The deployment of third generation mobile phone services which are ongoing will create demand for new mobile phones. All of this along with other major trends in computing and communications will continue to drive semiconductor volumes. Also, the semiconductor companies will be forced by the ongoing pressure to deliver smaller chips with finer circuitry to upgrade production lines to new technologies such as 300mm wafers and copper based production.

Portfolio

The technology and telecom sectors are down 51% and 48% respectively, since the peak in March, with many individual stocks down 85% or more. Although some of these companies were ill conceived concepts that will fail, there are others that have built real businesses with significant and growing revenues. It is this universe of companies that we believe are providing the interesting investment opportunities today.

Foundry Networks is a provider of networking equipment that in three years has gone from start up to an expected $370 million in sales this year. To achieve this, the company has had to win business against the likes of Cisco and Nortel which it has done by providing products with superior performance and lower prices. The company is a leader in layer 4 to 7 switches which are used to manage data traffic hitting web sites, a product capability that Cisco acquired in its purchase of Arrowpoint for $5.7 billion and Nortel through the acquisition of Alteon Websystems for $7.8 billion. Meanwhile the company is highly profitable and has significant cash balances. However news that the company would miss market estimates for the fourth quarter saw the stock fall heavily and is now trading at 7% of its high earlier in the year. The stock is trading on 18x times earnings which is very appealing given the longer term growth prospects.

Teradyne is a manufacturer of semiconductor test equipment, with a leading position in mixed signal testing. Test equipment is deployed in the final stages of the manufacturing process and the amount of test equipment required is a function of the volume of chips coming off the production line. Given the build up of inventory of semiconductors described earlier, it is not surprising that the stock saw a significant sell off which left it at 20% of its high and on less than 9x 2000 earnings. Although 2001 is likely to be a difficult year, the business has been highly profitable even through previous down cycles, has a clean balance sheet, and through time should grow at a rate of 15% or more.

Other additions to the portfolio in the quarter include Novellus (semiconductor capital equipment), Commerce One (business-to-business software), and RSA Security (internet security software). Although the portfolio's holdings in companies such as AMD, National Semiconductor, Motorola, and Novell have performed poorly over the quarter, we remain confident in the long term outlook for these businesses and have been adding to these positions at lower prices.

The short positions in the portfolio have been significantly reduced from 33% to 16% as profits were realised. Even though many stocks remain significantly overvalued, overly bearish sentiment and significant cash levels in technology funds would argue against taking an aggressive short position for the moment. The year ahead is likely to be a difficult one for the sector as the excesses of the "tech bubble" subside but it is promising that a large number of technology and telecom stocks are now reasonably priced.

BREAKDOWN BY INDUSTRY

Categories	Dec 2000
Semiconductor	31%
Software	18%
Semi Capex	14%
Telecom Equipment	12%
Electronic Components	7%
Other	2%

INVESTED POSITION

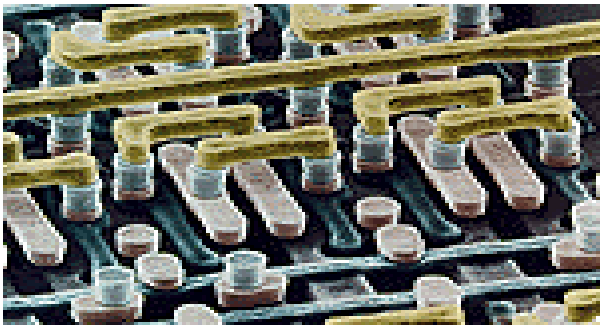
Region	Dec 2000	Sep 2000
US	70%	68%
Japan	11%	6%
Korea	3%	5%
Europe	1%	2%
Cash and Other	15%	19%

The Digital Revolution

Not so long ago, a mobile phone felt like a brick, music was recorded on black vinyl records, VCRs were guaranteed to rip the cassette tapes to shreds, and a leading personal computer ran at 133Mhz. This year's Christmas shopping lists would alert one to how much things have changed. Not only are mobile phones smaller, they also have longer battery life and include features such as radios and computer games. One can compile and down load one's favourite music into MP3 players with just a few clicks of a button. DVD offers amazing audio and visual quality, TV screens have refresh rates of 100Mhz and a powerful PC can now process millions of instructions in a second. And yet, we are still merely at the dawn of the digital age. From here on, nearly all communications will be first converted from the physical world of analog; that of sight and sound, into the digital world of zeros and ones, transmitted at the speed of light via optic fibre cable or wireless and then converted back into the analog world on the other side.

This has enormous implications for us as investors. We cannot vaguely refer to these developments as new fangled ideas but must understand their workings intimately to maximise the opportunity available. Let's start with the semiconductor chip. These rectangular shaped objects, which are normally housed in protective black plastic casings, are typically less than half a millimetre thick and usually two to ten millimetres in length and width. In its purest form, a semiconductor chip is a collection of transistors. A transistor functions as an electronic switch which allows current to flow or prevents it from flowing. Strange as it may sound, a collection of these simple ON and OFF switches/transistors allows all instructions and data to be converted into a binary language of ones and zeros. The Pentium III logic chip, which may be at the heart of one's PC for example, is made up of 28 million microscopic transistors. Yet, it is only 106mm^2 in size (smaller than a finger nail). The process of computing involves the pulsing of electrons through the chip at very high frequency (over a billion pulses per second) which regulates like a metronome the reading of codes, the fetching of data, the processing thereof and the final storage of the result.

To achieve this level of speed and compactness, chip makers, together with their equipment suppliers, have devised some extraordinarily complex manufacturing processes. An integrated circuit, better known as a semiconductor chip, is comprised of 6-8 layers of material in total. The base is a thin sliver of silicon crystal, hence wafer, upon which sequential layers are systematically deposited. Circuits are imprinted by shining a fiercely bright light through a stencil (mask) onto the photo-sensitive treated wafer. That part of the surface which is struck by light is softened while that which is in the shadow remains hard, thus in the subsequent washing and etching process the exposed part is removed thereby creating maze-like patterns. The process then proceeds to the next layering and so on. A typical wafer takes two to three months to manufacture having been through several hundred steps. There follows the dicing of the wafer into discreet chips (possibly three hundred). This is followed by the mounting of the chip on a leadframe, the spider like leads that allow the minute circuits of the chip to communicate with the printer circuit board (PCB) upon which it is mounted. Once attached to the leadframe, the chip is encased in a protective casing (that black cube), though new mounting techniques are evolving.



Source: IBM. SEM image of metal interconnects revealed by dissolving away the insulation layers on the surface of a chip.

A modern chip factory, so called fab, costs US$2-3 billion. The expense lies principally in the ultra clean conditions required and the intricate equipment. Do remember, these chips comprise circuits of 0.18µm in width, which is around 1/600th the width of a strand of human hair. Putting it another way, it is equivalent to the amount one's hair may grow in a single minute. A good example of the sophistication of the tools employed is that of the stepper. This is the photolithography device that allows the pattern to be laid down on the chip. It comprises a laser, which was first envisaged in the US Department of Defence Star War project, and a platform (stage) that moves the wafer imperceptively under the gaze of the light source. Such a tool can cost over US$10 million even though its footprint is only 6.5m^2. The multiple faceted lens alone takes nine months to produce.

As one might imagine from the above, the semiconductor industry has spawned a multitude of disciplines and industries that barely existed 20 years ago. This is fertile ground for us to look for opportunities for investment in a similar way to that which existed during the glory days of machine tools. The beauty of this industry is that unit demand is still growing very strongly which not even an economic slowdown will damage. A good

example of this is the car industry. Additional functions such as air bags, ABS braking, global positioning systems all entail greater electronic content within a car: 60 – 70 chips are used in the current BMW 7 series and this is expected to double in the soon to be released model. Mobile phones and personal digital assistants (PDAs) are new areas that will require more and more semiconductor chips: mobile handset shipments quadrupled in a little under four years, from 108 million units in 1997 to approximately 420 million units this year. More importantly, semiconductor content per mobile phone is expected to rise as we move to the next generation wireless protocol.

There also have been tremendous strides in fixed line communication. The backbone of the system is now largely comprised of optic fibre and with ingenious engineering a single strand of fibre can carry 64 channels by using multiple light wavelengths. This adds impetus to the semiconductor industry in that the analog signals (electrical pulses) must be first converted into light pulses, amplified and shot down the optic fibre. At the other end, the reverse has to take place. In this case, there are a host of semiconductors used to translate electrical pulses into light for amplification and for transmission.

THE DIGITAL REVOLUTION PROVIDES A STRONG GROWTH OPPORTUNITY ALBEIT CYCLICAL

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000F	CAGR*
Sales (US$bn)	55.0	60.0	77.3	101.9	144.4	132.0	137.2	125.6	149.0	209.0	14%

* Compound Annual Growth Rate

Despite the favourable long term trend to worldwide semiconductor consumption, one cannot lose sight of the fact that it is a cyclical growth industry. Like many industries that benefit from economies of scale, incremental additions to capacity tend to be chunky and often come on stream just after demand has peaked. Further, this industry has been characterised by broadening geographical participation with the Taiwanese and Koreans playing catch-up and challenging the likes of Japan and America. One factor that may smooth the amplitude of the cycle is the development of the super fab companies who take in works from the design specialists. This is also an important development for the equipment suppliers who face a greater concentration of buyers. The outcome of this may be more mergers and acquisitions amongst the equipment suppliers who in any case see benefits from consolidating R&D budgets. Furthermore, over the next three years, the equipment suppliers will find themselves better insulated from the vagaries of the cycle as their customers, the semiconductor makers, are at the start of two major technology upgrades. For all that, the industry stands out for its persistent profitability: even at the bottom of the cycle the quality companies remain profitable.

We believe the recent sell off in the Nasdaq where fabless chip designers have seen their share prices collapse to a third of their peaks and those of the semiconductor equipment suppliers (SPE) by 70%, sets an interesting environment for investors with sensible time horizon.