Platinum International Health Care Fund

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Portfolio Manager

Performance

(compound pa, to 30 September 2017)

	QUARTER	1YR	3YRS	5YRS	SINCE INCEPTION
Platinum Int'l HC Fund*	3%	14%	15%	19%	10%
MSCI AC World HC Index	0%	9%	11%	20%	9%

*C Class – standard fee option. Inception date: 10 November 2003.
Refer to note 1, page 4.
Source: Platinum Investment Management Limited, RIMES Technologies.
Historical performance is not a reliable indicator of future performance.

Disposition of Assets

REGION	30 SEP 2017	30 JUN 2017	30 SEP 2016
Europe	40%	36%	41%
North America	37%	33%	39%
Australia	6%	6%	3%
Japan	4%	4%	3%
Cash	13%	21%	14%
Shorts	0%	-1%	<1%

Source: Platinum Investment Management Limited. See note 3, page 4.

This quarter started out quietly but gained speed later on with several significant data events as well as corporate activity.

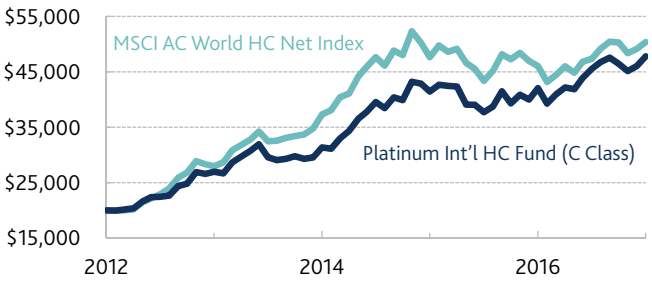
Biotechs added to the Fund's positive performance with a number of our holdings receiving new drug approvals or showing pipeline progress. Our life science holdings also did well, and we continue to see strong demand for biologics. Our pharma holdings were less inspiring this quarter, except for Takeda, which continues to transform itself.

Top 10 Holdings

STOCK	COUNTRY	INDUSTRY	WEIGHT
AstraZeneca Plc	UK	Health Equip & Services	3.7%
Sanofi SA	France	Pharmaceuticals	3.6%
MorphoSys AG	Germany	Biotechnology	3.5%
Roche Holding AG	Switzerland	Pharmaceuticals	3.2%
Gilead Sciences Inc	USA	Biotechnology	3.0%
Johnson & Johnson	USA	Pharmaceuticals	2.9%
Prothena Corp	USA	Biotechnology	2.7%
Galapagos NV	Netherlands	Biotechnology	2.5%
Foundation Medicine	USA	Health Care Providers	2.5%
Takeda Pharmaceutical	Japan	Pharmaceuticals	2.2%

As at 30 September 2017.
Source: Platinum Investment Management Limited. See note 4, page 4.

Value of $20,000 Invested Over Five Years
30 September 2012 to 30 September 2017



Refer to note 2, page 4.
Source: Platinum Investment Management Limited, RIMES Technologies.
Historical performance is not a reliable indicator of future performance.

For further details of the Fund's invested positions, including country and industry breakdowns as well as currency exposure, updated monthly, please visit https://www.platinum.com.au/fund-updates/#MonthlyUpdatesForThePlatinumTrustFunds.

Commentary

No quarter can pass without some new developments in immunotherapy and this quarter was no different.

AstraZeneca's Mystic lung cancer trial results finally came out, with disappointing progression-free survival data (overall survival data yet to come), hence finally shaking out the Mystic obsessors. To us, AstraZeneca has always been about the totality of its portfolio, not just one trial. During the quarter, our thesis was confirmed that AstraZeneca indeed has a solid portfolio for lung diseases. For lung cancer, its PD-L1 inhibitor Imfinzi works just fine in early stage disease, while its next generation EGFR inhibitor works best for EGFR mutated lung cancer patients and is evidently superior to the current standard of care. As Astra showcased the depth of its overall respiratory portfolio, financial analysts had to reassess their expectations.

During the quarter Johnson and Johnson (JNJ) received US Food and Drug Administration (FDA) approval for guselkumab, an IL-23 inhibitor. Guselkumab was discovered by German biotech MorphoSys, and is their first antibody gaining commercial approval. Launch is going well and JNJ is looking to expand guselkumab's indications beyond psoriasis.

On a recent visit to California, excitement in biotech was palpable, which also coincides with record levels of venture capital funding in the sector. Companies are able to raise money quickly and progress their pipelines. The regulatory environment is also very accommodating with the FDA focusing on speeding up innovative new drugs. This year the FDA has been very busy, having already approved 33 drugs (22 in 2016, 45 in 2015). Scott Gottlieb, the new FDA Commissioner appointed in May this year, has so far not disappointed in his efforts to change the review culture and enable innovative products to reach the market faster (as long as safety is not an issue). Overall, this makes for a productive environment.

Personalised medicine is gaining momentum and companies feel much more comfortable in navigating the reimbursement maze. While many companies can offer sequencing, success will depend on the details of the product offering and how actionable the data is. Hence caution should prevail when looking at new investment opportunities in this emerging space.

Gilead Sciences started to use its cash this quarter, announcing the acquisition of Kite Pharma, whose work on developing chimeric antigen receptor T-cell (CAR-T) therapy to treat non-Hodgkin lymphoma is well-progressed. The deal re-ignited interest in Gilead as well as in biotechs more generally, particularly any company that has an interest in T-cell therapy.

Coincidently, in the same week that Gilead announced its acquisition of Kite Pharma, Novartis and Oxford Biomedica received FDA approval for their T-cell therapy, tisagenlecleucel (marketed under the brand name Kymriah), for leukaemia treatment, adding to the biotech momentum. Oxford BioMedica is a holding in the Platinum International Health Care Fund. We first introduced the company in our December 2015 quarterly report. The stock rose 26% for the quarter and 184% for the year.

We wrote about gene therapy and in particular T-cell therapy, which is a type of gene therapy, in our December 2015 quarterly report. It is a very exciting new therapy approach that has matured immensely over the past 20 years. Like most major scientific advances, the development of T-cell therapy has not been a smooth and easy path. The personalised nature of gene therapy presented unique trial challenges and made it all the more difficult for researchers to obtain funding. It took dogged perseverance as well as chance and luck to overcome the enormous scepticism and setbacks that the researchers faced, particularly in the early days of the emergence of gene therapy as a new field, to demonstrate the efficacy of the new approach to treatment. The FDA approval for Kymirah this quarter is therefore a significant event, highlighting not only scientific advances, but more importantly, the willingness of the regulator as well as physicians and companies to embrace and fund new technologies.

T-cell therapy is not a traditional drug that you pick up at a pharmacy. It is a process that requires a tight logistic network working seamlessly. First, a patient's white blood cells (T cells) are harvested in a hospital setting. Those T cells are then shipped to a manufacturing site where they are infected with a viral vector carrying genetic information that will tell the T cells to attack the cancer. The vector itself has to be manufactured separately (viral vectors are Oxford Biomedica's expertise). Once the T cells are infected, they are expanded, put through quality control and repackaged to be shipped back to the hospital where they will be infused back into the patient's body. (These modified patient-specific T cells make up Kymirah). The process involves neither a standard pharmacy nor a classical drug distributor. The therapy is performed in specifically accredited clinics, while the manufacturer takes care of the rest.

As we have written in the past, the physician's tool box for treating a disease is expanding, while the ways in which some of the new medicines are manufactured and administered are also becoming increasingly complex. The nature of personalised medicine requires the entire supply chain, from manufacturing to distribution and payment systems, to adjust accordingly.

Distribution networks will become more specialised. Manufacturers are already working directly with infusion centres, as opposed to using a drug distributor as the middleman. The manufacturing of gene therapy products is also more intricate than traditional drug manufacturing, and efficacy varies from patient to patient, making it challenging for the regulators who themselves are on a steep learning curve.

Pricing models also have to change as these new therapies are designed to be administered once only, rather than repeated over one or more courses of treatment. As US pharmacy benefit manager Express Scripts poignantly put it, "pharmaceutical companies have a single opportunity per patient to get paid". Hence, the prices charged will be significant (potentially several millions of dollars; tisagenlecleucel has a present price tag of US$475,000), and it is currently unclear how the bills will be paid. Will it be a large one-off payment? Will it be paid over time in instalments, like paying off a mortgage? In the end, however, outcome-based contracting will have to be part of the equation, meaning that if the therapy fails to live up to its promise neither the patient nor the payor (the insurer) will have to foot the bill. Novartis is working on such contracts for its Kymriah, as is Amgen for its cholesterol antibody.

Outlook

The healthcare industry is currently in a state of flux. We are seeing strong pricing for new innovative products on the one hand and deflation in generic drugs on the other. The generic drug industry, in general, while serving a good purpose, has multiple challenges and is in search of new opportunities. Consolidation is happening but will only provide short-term relief, while more will depend on significant strategic investments. Some generic drug companies have tilted towards more R&D, while others expanded their consumer health offering or embraced biosimilars. Similarly, drug distributors who have benefited from higher drug prices as well as drug retailers are contemplating their future as Amazon studies the supply chain with a keen interest. The healthcare industry globally is undergoing significant change, and while popular press would like everyone to believe it is just pharma that needs to adjust, we think that bigger shifts are occurring elsewhere.

Notes

1. The investment returns are calculated using the net asset value unit price of C Class (standard fee option) of the relevant Fund and represent the combined income and capital return of C Class for the specified period. Returns are net of fees and costs (excluding the buy/sell spread), are pre-tax, and assume the reinvestment of distributions. The investment returns shown are historical and no warranty can be given for future performance. Historical performance is not a reliable indicator of future performance. Due to the volatility in the Fund's underlying assets and other risk factors associated with investing, investment returns can be negative, particularly in the short-term.

   The MSCI index returns have been sourced from RIMES Technologies. Index returns are in Australian dollars and include dividends, but, unlike the Fund's returns, do not reflect fees or expenses. The net MSCI index is used, except, where applicable, the gross MSCI index was used prior to 31 December 1998 as the net MSCI index did not exist then.

   For the purposes of calculating the "since inception" returns of the MSCI index, the inception date of C Class of the Fund is used.

   Platinum does not invest by reference to the weighting of the index. Underlying assets are chosen through Platinum's individual stock selection process and, as a result, the Fund's holdings may vary considerably to the make-up of the index. Index returns are provided as a reference only.

2. The investment returns depicted in this graph are cumulative on A$20,000 invested in C Class of the Fund over the specified five year period relative to the relevant net MSCI index in Australian dollars.

   The investment returns are calculated using the net asset value unit price of C Class (standard fee option) of the Fund and represent the combined income and capital return of C Class for the specified period. Returns are net of fees and costs (excluding the buy/sell spread), are pre-tax, and assume the reinvestment of distributions. The investment returns shown are historical and no warranty can be given for future performance. Historical performance is not a reliable indicator of future performance. Due to the volatility in the Fund's underlying assets and other risk factors associated with investing, investment returns can be negative, particularly in the short-term.

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3. The geographic disposition of assets (i.e. the positions listed other than "cash" and "shorts") represents the Fund's exposure to physical holdings (equity and corporate fixed income securities) and long derivatives (of stocks and indices) as a percentage of the Fund's net asset value.

4. The table shows the Fund's top 10 long stock exposure (through physical holdings and long derivative positions) as a percentage of the Fund's net asset value.

5. Sector breakdown represents the Fund's net exposure to physical holdings and both long and short derivatives (of stocks and indices) as a percentage of the Fund's net asset value.

6. The table shows the Fund's major currency exposure as a percentage of the Fund's net asset value, taking into account any currency hedging.

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Some numerical figures in this publication have been subject to rounding adjustments.

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