Platinum
CAPITAL LIMITED

Annual Report 2017

Platinum Capital Limited

ABN 51 063 975 431

Directors

Bruce Coleman
Richard Morath
Jim Clegg

Company Secretary

Joanne Jefferies

Investment Manager

Platinum Investment Management Limited
(trading as Platinum Asset Management®)

Shareholder Liaison

Liz Norman

Registered Office

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Sydney NSW 2000

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Share Registrar

Computershare Investor Services Pty Ltd
Level 3, 60 Carrington Street
Sydney NSW 2000

Phone 1300 855 080 (Australia only)
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Auditor and Taxation Advisor

PricewaterhouseCoopers

Securities Exchange Listing

Platinum Capital Limited shares are listed on the Australian Securities Exchange (ASX code: **PMC**)

Corporate Governance Statement

https://www.platinum.com.au/documents/shareholders/pmc_corp_gov.pdf

Platinum Investment Management Limited neither guarantees the repayment of capital nor the investment performance of the Company.

Contents

Chairman's Report 2017

Highlights

2017 has been a strong year for Platinum Capital Limited ("PMC" or the "Company") and I am pleased to report the following highlights:

- Investment performance as measured by the growth of its pre-tax Net Tangible Assets (NTA) increased by 19.79% for the 12 months to 30 June 2017, outperforming the benchmark by 4.48%;
- Net profit after tax was $49.9 million;
- The Company declared a fully-franked final dividend of 6 cents per share, bringing the total dividends declared for the 2017 financial year to 10 cents per share, an increase of 3 cents per share from the previous year;
- The Company is not affected by the recent small company tax changes and will be able to distribute franking credits for the 2017 financial year at a tax rate of 30%; and
- The Company successfully completed a capital-raising resulting in additional aggregate gross proceeds of $70.1 million, which increased the Company's capital in terms of dollar value by 22.7%.

Investment Performance

In the 2016 Chairman's Report, I noted that there would be short-term periods where returns are below benchmark, because PMC's portfolio is structured quite differently to that of its benchmark index, due to PMC's investment philosophy and process.

I am pleased to report that for FY 2017, PMC turned around this short-term underperformance, validating the Investment Manager's well-tested value-driven style, which is doggedly index agnostic and goes against the crowd.

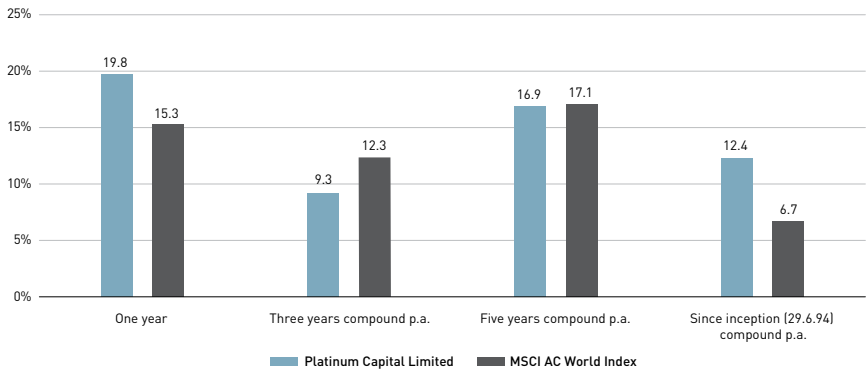
For the year ending 30 June 2017, the Company's NTA increased by 19.79% pre-tax in $A terms against the return of its benchmark, the Morgan Stanley Capital International (MSCI) All Country World Net Index in $A, which delivered a return of 15.31% for the same period. The Company comfortably outperformed the benchmark, during this period whilst maintaining a net equity exposure on average of approximately 80%, due to the Investment Manager's downside protection philosophy. The comparable return from the Australian All Ordinaries Accumulation Index was 12.80%, over the same period. It should be noted that the Company's returns are calculated after the deduction of fees and expenses and assume the reinvestment of dividends.

The key drivers of PMC's performance were companies in the Asian region, led by information technology and financials. The Company has continued to heavily favour companies in Asia, especially China and India, over those in the United States. At 30 June 2017, PMC had more than 37% net equity exposure to Asia versus only about 4% net equity exposure to the US.

Since inception (in 1994) and until 30 June 2017, the compound annual appreciation of the Company's NTA has been 12.37% per annum compared to the return from the MSCI All Country World Net Index $A of 6.67%. The comparable compound annual return from the Australian All Ordinaries Accumulation Index was 9.12% over the same period.

The Board believes that the Company's long-term track record demonstrates the success of the investment philosophy and process of the Company's Investment Manager.

PMC's Pre-Tax Net Tangible Assets return versus MSCI index^ to 30 June 2017



^ Morgan Stanley Capital International All Country World Net Index in A$

Pre-tax NTA return is calculated on a net basis, and after the deduction of management fees and other expenses.

The investment returns shown are historical and no warranty can be given for future performance.

Source: Platinum Investment Management Limited and MSCI. All data where MSCI is referenced is the property of MSCI. No use or distribution of this data is permitted without the written consent of MSCI. This data is provided "as is" without any warranties by MSCI. MSCI assumes no liability for or in connection with this data.

For the year ended 30 June 2017, the Company made a statutory pre-tax operating profit of $71.1 million and a post-tax operating profit of $49.9 million. For the prior year, the pre-tax operating loss was $26.8 million and the post-tax operating loss was $18.8 million.

Under Australian Accounting Standards, realised profits and losses are added to, or reduced by, changes in the market value of the Company's total assets. This can lead to large variations in recorded statutory profits or losses from any one year to the next.

The Directors continue to maintain that a more appropriate measure of the Company's results is the percentage change in its pre-tax NTA plus dividends paid. On this measure, the Company has achieved a return of 19.79% for the 12 months to 30 June 2017.

Chairman's Report 2017 – continued

Dividends

A fully-franked dividend of 6 cents will be paid for the year ended 30 June 2017, making 10 cents for the full year, representing an increase of 3 cents from the previous year.

Based on the 30 June 2017 share price of $1.685, this represents a dividend yield of 5.93% or 8.48% including franking credits.

The Board remains committed to its policy of dividend smoothing, and endeavours to ensure that there are sufficient franking credits available to pay fully-franked dividends. The ability to generate fully-franked dividends will continue to be dependent on the Company's ability to generate realised profits and pay tax.

To the extent that any profits are not distributed as dividends, the Company has a policy, where it may set aside some or all of its undistributed profits to a separate dividend profit reserve, to facilitate the payment of future fully-franked dividends. The benefit of the dividend profit reserve for the Company is that it will have a pool of undistributed profits available for distribution, subject to the balance of the franking account.

I can confirm that for the year ended 30 June 2017, PMC is not affected by any changes in the small company tax rate and PMC will be able to distribute franking credits at a tax rate of 30%, because PMC's turnover for the year exceeded the $10 million threshold.

Capital Management

(i) Amendment of capital management policy

In February 2017, the Board amended the Company's non-binding capital management policy in order to have greater flexibility in managing the Company's capital structure, in response to changing market conditions and risks, with the sole aim of enhancing shareholder value.

The Company's capital management policy is as follows:

The Board will give active consideration, as appropriate, to enhancing shareholder value through:

- the management of the level of dividends to shareholders;
- the issue of shares by methods including rights offers, share purchase plans or placements; or
- the use of share buy-backs.

(ii) Capital management initiatives conducted

In March/April 2017, PMC successfully completed a Placement to sophisticated and professional investors, raising gross proceeds of approximately $53.5 million, in response to strong demand from institutional investors.

In addition, PMC offered a Share Purchase Plan (SPP) to eligible shareholders and the SPP raised gross proceeds of approximately $16.6 million.

The aggregate gross proceeds of $70.1 million raised, increased the Company's capital in terms of dollar value by 22.7%.

Corporate Governance

As shareholders would be aware, PMC's funds are ultimately managed by Platinum Investment Management Limited through two key agreements previously approved by shareholders: the Investment Management Agreement and the Administration Services Agreement.

In the past year, the Non-Executive Directors report that they have continued to monitor the performance of the Investment Manager and its adherence to the agreements with the full and transparent co-operation of Platinum Investment Management Limited and its management team. Accordingly, I am confident in the integrity and reporting of the Company's financial results to shareholders.

Outlook for 2017-2018

As recently highlighted by the Investment Manager, *"Investors should be cautious in the year ahead. This caution applies in particular to the US market."*

However, the Investment Manager notes that *"Asia and Europe, on the other hand, seem to be offering better opportunities. Despite their strong returns over the last year, our Asian and European investments are still showing a combination of attractive absolute valuations and underlying earnings growth, which we think will see these investments continue to produce good returns over the next three to five years."*

Finally

The 12 month performance of the Company continues to endorse the investment philosophy, process and expertise of the Investment Manager. Accordingly, I wish to express my appreciation of the work done by Kerr Neilson, Andrew Clifford and their team at Platinum over the last year.

Bruce Coleman
Chairman

17 August 2017

Financial Information Summary

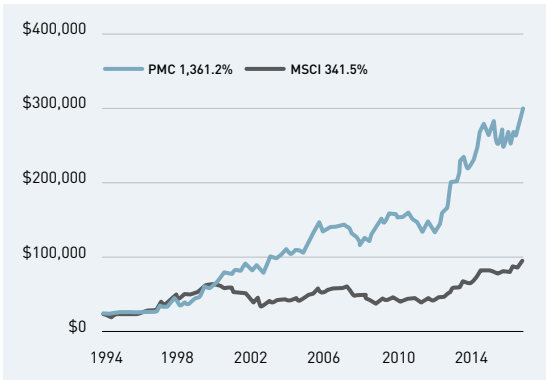
30 June 2017

+19.79%	6c	5.93%
12 month performance[i] (based on pre-tax NTA)	Final fully-franked dividend	Dividend yield[ii]

Inception Date	29 June 1994
Market capitalisation	$478.12m
Share price	$1.685
Shares on issue	283,753,284
Total 12 month shareholders return[iii]	8.95%
Net Tangible Assets (pre-tax) per share	$1.6337
Net Tangible Assets (post-tax) per share	$1.5679
Net assets	$445.58m
Profit for the year	$49.9m
Dividend profit reserve[iv]	24.82cps
Fully-franked dividend capacity[v]	1.84cps

The Company's (PMC's) pre-tax Net Tangible Assets (NTA) compound return since inception to 30 June 2017 was 12.37% per annum[i].

Cumulative performance[i] since inception to 30 June 2017 on a pre-tax NTA measure is provided in the graph below.



5 year compound per annum returns since inception[i]

	PMC	MSCI
Total number of 5 year periods to 30 June 2017[vi]	217	217
Periods where return was positive (% of total)	96%	59%
Periods where return was negative (% of total)	4%	41%
Largest 5 year gain (% compound per annum)	27%	23%
Largest 5 year loss (% compound per annum)	-2%	-8%
Periods > +8% compound per annum (% of total)	73%	38%
Periods where PMC return was > MSCI (% of total)	76%	NA

i The pre-tax NTA return is calculated on a net basis after the deduction of fees, expenses and taking into account capital flows (primarily the Placement and the Share Purchase Plan), and assumes the re-investment of dividends.

ii Dividend yield is based on the 2017 interim final dividend of 4 cents per share and 2017 final dividend of 6 cents per share and the share price as at 30 June 2017.

iii Based on share price movements and dividends physically paid during the year, being the 2016 final dividend of 4 cents per share and the 2017 interim dividend of 4 cents per share.

iv Dividend profit reserve includes transfer of the 2017 profit after tax and the 2017 final dividend of 6 cents per share.

v This is the maximum fully-franked dividend that can be paid based on the franking credit balance as at 17 August 2017 after providing for the 2017 final dividend of 6 cents per share.

vi Commencing each month since inception to 30 June 2017.

Financial Statements 2017

Platinum Capital Limited

General information

The financial statements were authorised for issue, in accordance with a resolution of Directors, on 17 August 2017. The Directors have the power to amend and reissue the financial statements.

Shareholder Information

The shareholder information set out below was applicable as at 14 August 2017.

Distribution of equity securities

Analysis of number of equity security holders by size of holding:

	NUMBER OF HOLDERS OF ORDINARY SHARES
1 to 1,000	1,008
1,001 to 5,000	2,309
5,001 to 10,000	2,423
10,001 to 100,000	5,803
100,001 and over	290
	11,833
Holding less than a marketable parcel (of $500)	564

Substantial holders

Twenty largest quoted equity security holders

The names of the twenty largest security holders of quoted equity securities are listed below:

	ORDINARY SHARES	
	NUMBER HELD	% OF TOTAL SHARE ISSUED
Sysha Pty Limited	14,000,000	4.93
HSBC Custody Nominees (Australia) Limited	7,889,334	2.78
Australian Executor Trustees Limited	4,400,439	1.55
Lekk Pty Limited	4,000,000	1.41
Nulis Nominees (Australia) Limited	2,684,447	0.95
Jorlyn Pty Limited	2,000,000	0.70
Mr William Kerr Neilson	1,977,646	0.70
Moya Pty Limited	1,694,406	0.60
IOOF Investment Management Limited	1,338,763	0.47
Navigator Australia Limited	1,115,209	0.39
BNP Paribas Nominees Pty Limited	987,174	0.35
Forsyth Barr Custodians Limited	868,977	0.31
HSBC Custody Nominees (Australia) Limited – a/c 2	708,979	0.25
Mr Raymond Ireson	687,445	0.24
Netwealth Investments Limited	602,554	0.21
O'Keefe Aus Holdings Pty Limited	587,000	0.21
Mr Robert John Webb	500,000	0.18
Bond St Custodians Limited	444,337	0.16
Fay Fuller Foundation Pty Limited	436,800	0.15
James & Diana Ramsay Foundation Pty Limited	425,400	0.15
	47,348,910	16.69

There are no substantial holders in the Company.

Shareholder Information – continued

Voting rights

Ordinary shares

On a show of hands every member present at a meeting in person or by proxy shall have one vote and upon a poll each share shall have one vote.

Distribution of Annual Report to Shareholders

The Law allows for an "opt in" regime through which shareholders will receive a printed "hard copy" version of the Annual Report only if they request one. The Directors have decided to only mail out an Annual Report to those shareholders who have "opted in".

Financial Calendar

Ordinary shares trade ex-dividend	22 August 2017
Record (books close) date for dividend	23 August 2017
Dividend paid	11 September 2017

These dates are indicative and may be changed.

Notice of Annual General Meeting (AGM)

The details of the Annual General Meeting of Platinum Capital Limited are:

10am Thursday 26 October 2017
Museum of Sydney
Corner of Phillip & Bridge Streets
Sydney
NSW 2000

Questions for the AGM

If you would like to submit a question prior to the AGM to be addressed at the AGM you may email your question to invest@platinum.com.au.

Investment Structure, Objectives and Approach

Company Structure

Platinum Capital Limited (the "Company" or "PMC") is a listed investment company, or LIC, quoted on the Australian Securities Exchange ("ASX") and traded in the same way as other listed shares. Being a LIC, in contrast to unlisted managed investment schemes, the Company:

- is closed-ended and therefore not open for subscriptions or redemptions by investors, which means that the underlying portfolio can be managed without concern for the possibility of unplanned, fluctuating cashflows;
- is taxed at source and can therefore distribute available profits to shareholders in the form of dividends, usually fully-franked; and
- has established a dividend profit reserve which enables some smoothing of dividends, from year to year, at the discretion of the Board.

Shares in the Company can trade at a premium or discount to their Net Tangible Asset Backing per share ("NTA"), which is calculated and announced to the ASX weekly and monthly. Investors should take this into account when making decisions to purchase or sell shares in the Company.

The Company delegates its investment and administration functions to Platinum Investment Management Limited (trading as Platinum Asset Management) (the "Manager"), which employs a team of experienced investment professionals and administration personnel to perform those services. The Company and the Manager are separate legal entities.

Investment Objectives

The principal activity of the Company during the year was the investment of funds internationally into securities of companies, which are perceived by the Investment Manager, Platinum Investment Management Limited, to be undervalued. Its key investment objectives are to:

- deliver attractive returns to shareholders over time, made up of capital growth and fully-franked dividends; and
- contain capital losses by mitigating the impact of market downturns.

In addition, the Company seeks to enhance the consistency of fully-franked dividends by partially reserving profits in years of strong performance to be utilised for distribution to shareholders in periods of lower returns.

While generating attractive returns is the Company's primary objective, the Manager also believes it has an important responsibility to manage the risk of capital losses and employs a variety of strategies to achieve this. As a result, the Company may not be 100% invested in the equity markets.

Investment Structure, Objectives and Approach
– continued

At times these objectives will be in conflict as strategies to manage downside risk can have the accompanying effect of reducing potential upside. Also, protective strategies may be implemented in advance of a downturn and sometimes well in advance. Hence, by comparison with a fully-invested long-only approach, the Company is less likely to outperform the benchmark during bull markets and more likely to outperform during bear markets.

Over the longer term, in pursuing these dual objectives, the Manager aims to achieve net returns (i.e. after all fees and expenses) that are close to or exceed the benchmark Morgan Stanley Capital International All Country World Net Index (MSCI) in $A terms, but with reduced impairment of capital following serious downturns.

Investment Methodology

The Manager's index-agnostic investment approach has been well tested over many years. The principles on which it is based have not varied since the Company's inception, although the process has evolved and been refined over time.

The Manager seeks to invest globally in a broad range of companies whose businesses and growth prospects are, in its view, being inappropriately valued by the market. Just as optimism and pessimism ebb and flow in stock markets, similar sentiments also affect individual companies. This means that transitory events often have a disproportionate effect on the share prices of companies, be they positive or negative, and there is thus a tendency for share prices to deviate significantly from their inherent trend line. The Manager's investment methodology seeks to identify and take advantage of the opportunities created by the divergence between a company's share price and its intrinsic value.

The Manager uses various devices to make sense of the universe of stocks around the world, including using both quantitative and qualitative screening to short-list companies for in-depth study. After identifying key themes and preferred industries, with due consideration of the macro environment, the portfolio is then built up through a series of individual stock selections based on detailed fundamental research. Care is taken to understand and monitor the inter-relationship of stocks within the portfolio.

The Manager's investment team is based in Sydney, Australia. Having a single location facilitates the cross pollination of ideas and free flow of information between analysts with different geographic and industry responsibilities. It has the further benefit that distance acts as a filter, enabling a more objective assessment of "noisy" markets. The research process, however, is well supported by extensive visits to companies and key regions.

The wealth of research and detailed analysis that leads to the addition/retention/reduction of a stock in the portfolio takes form in a disciplined reporting process that is subject to the scrutiny of divergent thinking peers. This process serves to challenge

and encourage analysts and to "test" investment theses, as well as add accountability to the process.

For a more detailed description of Platinum Investment Management Limited's investment process, we encourage you to visit Platinum's website.

Managing Currency Exposures

International equity investments create an exposure to foreign currency fluctuations, which can change the value of the equity investments measured in the reporting currency of the Company's portfolio, which is the Australian dollar. It is part of the Company's investment strategy to assess the potential returns and risks created by currency exposures and to seek to position the portfolio with the aim of capturing those returns while minimising those risks. The aim is for the Company's portfolio to be exposed to the greatest extent possible to appreciating currencies and to a minimum to depreciating currencies. Accordingly, the level of the Company's hedging back into the Australian dollar will depend on the Manager's expectation of future movements in currency exchange rates. This is consistent with the Company's strategy of investing in securities of companies from a global rather than a currency perspective.

The Manager may manage the currency exposures of the Company's portfolio using foreign currency forward contracts, currency swaps, non-deliverable forwards and currency options, as well as spot foreign exchange trades.

As part of its investment process, the Manager may also assess the indirect impact of currency on the companies that it intends to invest in (e.g. the impact of currency fluctuations on a manufacturing business with significant export sales) and the potential for exchange rate movements to amplify or diminish Australian dollar returns for a holding. The investment of cash holdings may also be undertaken with consideration of the potential impact of currency movements (as well as interest rate and credit risk considerations).

Strategies Aimed at Containing Losses and Delivering Solid Absolute Returns

Strategies aimed at containing capital losses include adjusting cash levels, deploying funds from overvalued to undervalued regional markets, short selling and various derivative strategies.

Timing the implementation of these strategies is always challenging and, though the rewards can be gratifying, patience is often required. The nature of markets means it can take some time for inappropriately valued regional markets, industry sectors or individual stocks to become more widely recognised and to revert to a level close to their inherent value.

Investment Structure, Objectives and Approach
– continued

The Manager has historically maintained an effective cash level at between 15% and 30% of the portfolio. In the event of a significant downturn, cash positions not only act as a valuable cushion, but also provide much needed "fire power" to take advantage of the outstanding opportunities that inevitably become available. This in turn can greatly facilitate the portfolio to recover lost ground.

As illustrated in the Financial Information Summary, the Company has an outstanding record of delivering absolute returns, largely as a consequence of containing losses during market downturns. Over all the rolling five-year periods, commencing each month since inception, the Company has achieved positive returns far more frequently than the MSCI AC World Net Index and with nearly double the number of periods exceeding a return of 8% per annum compound. Moreover, the Company has recorded considerably fewer negative return periods and much smaller losses when negative returns did occur, compared to the benchmark.

Since inception on 29 June 1994, the Company has achieved a solid return after all fees and charges of 12.4% compound per annum (p.a.), thereby outperforming the MSCI benchmark over that time by 5.7% compound p.a[1].

1. The investment returns are calculated using PMC's pre-tax Net Tangible Asset Backing and represent the combined income and capital return of the investments for the specified period. They are after fees and expenses, and assume the reinvestment of dividends. Please note that the results are not calculated from PMC's share price. 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.

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Directors' Report

In respect of the year ended 30 June 2017, the Directors of Platinum Capital Limited (the "Company") submit the following report prepared in accordance with a resolution of the Directors.

Directors

The following persons were Directors of the Company during the whole of the financial year and up to the date of this report:

Bruce Coleman – Chairman and Non-Executive Director
Richard Morath – Non-Executive, Independent Director
Jim Clegg – Non-Executive, Independent Director

Company Secretary

Joanne Jefferies was appointed Company Secretary on 17 October 2016, replacing Mr Andrew Stannard who was the interim Company Secretary prior to Ms Jefferies appointment.

Principal Activities

The principal activity of the Company during the year was the investment of funds internationally into securities of companies, which are perceived by the Investment Manager, Platinum Investment Management Limited, to be undervalued.

Operating and Financial Review

The net profit before tax was $71,063,000 (2016: loss of $26,791,000) and net profit after tax was $49,927,000 (2016: loss of $18,764,000). The income tax expense for the year was $21,136,000 (2016: benefit of $8,027,000).

During the year, the Company conducted a Placement to sophisticated and professional investors and a Share Purchase Plan ("SPP") to its existing investors. The gross proceeds raised were $70.1 million.

The Directors consider that pre-tax Net Tangible Asset Backing per share ("NTA"), after fees and expenses, combined with the flow of dividends is a better measure of performance of the Company. For the 12 months to 30 June 2017, the Company's pre-tax NTA increased from $1.44 per share to $1.63 per share. In addition, shareholders received 8 cents per share in dividends during the year ended 30 June 2017.

For the 12 months to 30 June 2017, the Company's net assets on a pre-tax basis, after fees, expenses and taking into account capital flows (primarily from the Placement and the Share Purchase Plan), and assuming reinvestment of dividends, increased by 19.79% whereas the benchmark Morgan Stanley Capital International All Country World Net Index (MSCI) in $A terms increased by 15.31%. The Company's 3 year pre-tax compound net assets return was 9.32% per annum (versus the benchmark return of 12.32% per annum) and the Company's 5 year pre-tax compound net assets return was 16.88% per annum (versus the benchmark return of 17.14% per annum).

Directors' Report – continued

The Company has benefitted from strong stock selection in each of the key regions of Asia, Europe and North America.

The portfolio's P/E is around 15 times forward earnings, which the Investment Manager believes compares favourably with the valuation of both the Australian market and the US market.

This is a strong result, considering the Company had only around 80% exposure to equity markets during the year. In addition, the MSCI, as we have frequently alluded to, is heavily weighted to the US market (54%) which appears to be over-valued and expensive.

The Investment Manager has identified three key risks being the:

- overvaluation of the US market (managed via shorts);
- devaluation of the Chinese currency (managed by short selling the Chinese Yuan); and
- rising Australian Dollar.

The Investment Manager recently noted that "Asia and Europe seem to be offering better opportunities. Despite their strong returns over the last year, our Asian and European investments are still showing a combination of attractive absolute valuations and underlying earnings growth, which we think will see these investments continue to produce good returns over the next three to five years."

The Company continues to have an extremely strong balance sheet with few liabilities.

Dividends

On 17 August 2017, the Directors declared a final 2017 fully-franked dividend of 6 cents per share ($17,025,000), with a record date of 23 August 2017, payable to shareholders on 11 September 2017, out of the dividend profit reserve. After the payment of the 2017 final dividend, the balance in the dividend profit reserve is $70,420,000, which translates to 24.82 cents per share, based on the shares on issue at the date of this report. For the comparative reporting period, a fully-franked dividend of 4 cents per share ($9,413,000) was paid.

The 2 cents increase in the final dividend reflects a much stronger result for the year and the Directors' desire to reward shareholders appropriately while still maintaining a healthy dividend profit reserve.

The dividend reinvestment plan (DRP) is offered at a 2.5 per cent discount to the relevant share price.

Capital Management

(i) Capital management policy

During the year, the Board amended the Company's non-binding capital management policy in order to have greater flexibility in managing the Company's capital structure, in response to changing market conditions and risks, with the sole aim of enhancing shareholder value.

The Company's capital management policy is as follows:

The Board will give active consideration, as appropriate, to enhancing shareholder value through:

- the management of the level of dividends to shareholders;
- the issue of shares by methods such as rights offers, share purchase plans or placements; or
- the use of share buy-backs.

(ii) Capital management initiatives

During the year, the Company conducted a placement (Placement) of shares to sophisticated and professional investors. Under the Placement, 35,440,000 additional shares were issued, raising gross proceeds of approximately $53.5 million. Funds raised enhanced the ability of the Investment Manager to take advantage of global investment opportunities, with the aim of delivering strong absolute returns for investors over the medium and longer-term. The increase in the capital base reduced the Company's fixed costs as a percentage of its net assets, enhanced liquidity and enhanced the relevance of the Company to the broader market.

At the same time, the Company also conducted a Share Purchase Plan (SPP) which was targeted at smaller shareholders, by allowing them to also increase their stake in the Company. Under the SPP, 11,038,308 additional shares were issued raising gross proceeds of approximately $16.6 million.

Matters Subsequent to the End of the Financial Year

Apart from the dividend declared, no other matter or circumstance has arisen since 30 June 2017 that has significantly affected, or may significantly affect the Company's operations, the results of those operations, or the Company's state of affairs in future financial years.

Likely Developments and Expected Results of Operations

The Company will continue to pursue its key investment objectives, which are to deliver attractive returns to shareholders over time, made up of capital growth and fully-franked dividends and contain capital losses by mitigating the impact of market downturns. The methods of operating the Company are not expected to change in the foreseeable future.

Directors' Report – continued

Environmental Regulation

The Company is not adversely impacted by any particular or significant environmental regulation under Commonwealth, State or Territory law.

Information on Directors

Bruce Coleman BSC, BCOM, CA, FFIN
Chairman since 5 June 2015, Non-Executive Director since April 2004 and member of the Audit, Risk and Compliance Committee. (Age 67)

Mr Coleman has worked in the finance and Investment industry since 1986. He was the CEO of MLC Investment Management from 1996 to 2004. Mr Coleman has held various directorships within MLC Limited, Lend Lease and the National Australia Banking group. Mr Coleman was a Non-Executive Director of Platinum Asset Management Limited until 19 June 2017. Mr Coleman is Chairman of Resolution Capital Limited and in 2015, Mr Coleman was appointed as Chairman and Non-Executive Director of Platinum Asia Investments Limited.

Richard Morath BA, FIAA, ASIA
Independent, Non-Executive Director since March 2009 and Chairman of the Audit, Risk and Compliance Committee. (Age 68)

Mr Morath has over 43 years of experience in life insurance, funds management, banking and financial planning. Mr Morath is currently Non-Executive Director and Chairman of the Advice & Licences Boards of all Financial Planning companies in National Australia Bank/MLC and Chairman of National Australia Trustees. Mr Morath is also a Director of JANA Investment Advisors Limited, BNZ Life and Chairman of BNZ Investments Services Limited, and Mr Morath was appointed as a Director of ASX listed, Wealth Defender Equities Limited in 2015.

Jim Clegg BRURSC (HONS), DIPAGEC
Independent, Non-Executive Director since 5 June 2015 and member of the Audit, Risk and Compliance Committee. (Age 67)

Mr Clegg has over 29 years of experience in the financial services industry. Mr Clegg was the founding MD of Pembroke Financial Planners and has been a Director of Godfrey Pembroke, Berkley Group and Centric Wealth. Mr Clegg is a Trustee of The Walter and Eliza Hall Trust.

Meetings of Directors

The number of meetings of the Company's Board of Directors (the "Board") held during the year ended 30 June 2017, and the number of meetings attended by each Director were:

	BOARD		AUDIT, RISK AND COMPLIANCE COMMITTEE	
	ATTENDED	HELD	ATTENDED	HELD
Bruce Coleman	6	6	4	4
Richard Morath	6	6	4	4
Jim Clegg	6	6	4	4

Indemnity and Insurance of Officers

During the year, the Company incurred a premium in respect of a contract for indemnity insurance for the Directors of the Company named in this report.

Indemnity and Insurance of Auditor

The Company has not, during or since the end of the financial year, indemnified or agreed to indemnify the auditor of the Company against a liability incurred by the auditor.

During the financial year, the Company has not paid a premium in respect of a contract to insure the auditor of the Company.

Non-Audit Services

Details of the amounts paid or payable to the auditor for other (taxation and analytical) services provided during the financial year by the auditor are outlined in Note 20 to the financial statements.

The Directors are satisfied that the provision of non-audit services during the financial year, by the auditor (or by another person or firm on the auditor's behalf), is compatible with the general standard of independence for auditors imposed by the *Corporations Act 2001*.

The Directors are of the opinion that the services as disclosed in Note 20 to the financial statements do not compromise the external auditor's independence requirements of the *Corporations Act 2001* for the following reasons:

- all non-audit services have been reviewed and approved to ensure that they do not impact the integrity and objectivity of the auditor; and
- none of the services undermine the general principles relating to auditor independence as set out in APES 110: *Code of Ethics for Professional Accountants* issued by the Accounting Professional and Ethical Standards Board.

Directors' Report – continued

Rounding of Amounts

The Company is of a kind referred to in ASIC Corporations (*Rounding in Financial/ Directors' Reports*) Instrument 2016/191, issued by the Australian Securities and Investments Commission, relating to 'rounding-off'. Amounts in this report have been rounded off in accordance with this Instrument to the nearest thousand dollars, or in certain cases, the nearest dollar.

Auditor's Independence Declaration

A copy of the auditor's independence declaration as required under section 307C of the *Corporations Act 2001* is set out on page 25.

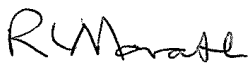
Auditor

PricewaterhouseCoopers continues in office in accordance with section 327 of the *Corporations Act 2001*.

This report is made in accordance with a resolution of Directors, pursuant to section 298(2)(a) of the *Corporations Act 2001*.

On behalf of the Directors

Bruce Coleman
Chairman



Richard Morath
Director

17 August 2017
Sydney

Remuneration Report (audited)

Executive Summary

There were only three officers remunerated by the Company during the year (the Non-Executive Directors).

- There has only been one increase in base pay for the Company Chairman and other Non-Executive Directors in the last 13 years.
- The Company does not pay bonuses to any of its Directors.
- Despite the approval of shareholders to pay Non-Executive Directors remuneration up to $350,000 per annum, only $186,150 in aggregate was paid to the three Directors in 2017 (2016: $186,150).

Introduction

The Directors of Platinum Capital Limited present the Remuneration Report prepared in accordance with section 300A of the *Corporations Act 2001* for the year ended 30 June 2017.

The information provided in this Remuneration Report forms part of the Directors' Report and has been audited by the Company's auditor, PricewaterhouseCoopers, as required by section 308 of the *Corporations Act 2001*.

Key Management Personnel ("KMP")

For the purposes of this report, the KMP of the Company in office during the financial year were:

NAME	POSITION
Bruce Coleman	Chairman and Non-Executive Director
Richard Morath	Non-Executive Director
Jim Clegg	Non-Executive Director

Shareholders' Approval of the 2016 Remuneration Report

A 25% or higher "no" vote on the remuneration report at an AGM triggers a reporting obligation on a listed company to explain in its next Annual Report how concerns are being addressed.

At the last AGM, the Company Remuneration Report passed on a show of hands, after proxies indicated a "for" vote of 81.02%. Despite this outcome, we have set out to fully explain the basis and structure of the remuneration paid to KMP.

Non-Executive Director Remuneration

The Constitution of the Company requires approval by shareholders at a general meeting of a maximum amount of remuneration to be paid to Non-Executive Directors.

Directors' Report – continued

The aggregate amount of remuneration that can be paid to the Non-Executive Directors, which was approved by shareholders at the 2005 Annual General Meeting, was $350,000 per annum (including superannuation). Despite the ability to pay remuneration up to this level, only $186,150 in aggregate was paid to the three Directors in 2017 (2016: $186,150).

Principles, Policy and Components of Non-Executive Directors' Remuneration
Remuneration paid to the Non-Executive Directors is designed to ensure that the Company can attract and retain suitably qualified and experienced directors.

It is the policy of the Board to remunerate at market rates commensurate with the responsibilities borne by the Non-Executive Directors.

Non-Executive Directors received a fixed fee and mandatory superannuation.

Directors do not receive performance-based or earnings-based remuneration and are not eligible to participate in any equity-based incentive plans.

Remuneration for the Non-Executive Directors is reviewed annually by the Board and set at market rates commensurate with the responsibilities borne by the Non-Executive Directors. Independent professional advice may be sought. No other retirement benefits (other than mandatory superannuation) are provided to the Directors.

There has only been one increase in base pay for the Company Chairman and other Non-Executive Directors in the last 13 years.

Remuneration for Non-Executive Directors

The table below presents amounts received by the Non-Executive Directors.

NAME	CASH SALARY $	SUPER-ANNUATION $	SHORT-TERM INCENTIVES $	LONG-TERM INCENTIVES $	TOTAL $
Bruce Coleman					
FY 2017	60,000	5,700	–	–	65,700
FY 2016	60,000	5,700	–	–	65,700
Richard Morath					
FY 2017	55,000	5,225	–	–	60,225
FY 2016	55,000	5,225	–	–	60,225
Jim Clegg					
FY 2017	55,000	5,225	–	–	60,225
FY 2016	55,000	5,225	–	–	60,225
Total remuneration					
FY 2017	170,000	16,150	–	–	186,150
FY 2016	170,000	16,150	–	–	186,150

Employment Arrangements of KMP

The key aspects of the KMP contracts are as follows:

- Remuneration and other terms of employment for Directors are formalised in letters of appointment that all Directors signed.
- All contracts with Directors include the components of remuneration that are to be paid to KMP and provide for annual review, but do not prescribe how remuneration levels are to be modified from year to year.
- The tenure of the Directors is subject to approval by shareholders at every third AGM or other general meeting convened for the purposes of election of Directors.
- In the event of termination, all KMP are only entitled to receive their statutory entitlements.
- Directors may resign by written notice to the Chairman and where circumstances permit, it is desirable that reasonable notice of an intention to resign is given to assist the Board in succession planning.

Directors' Report – continued

Link between the Remuneration of the Directors and Company Performance

	2017	2016	2015	2014	2013
Total net investment income/(loss) ($'000)	**77,086**	(20,310)	71,098	53,662	79,555
Expenses ($'000)	**(6,023)[1]**	(6,481)[1]	(7,579)[1]	(6,857)[1]	(4,707)
Profit/(loss) after tax ($'000)	**49,927**	(18,764)	44,826	32,885	58,802
Earnings per share (cents per share)	**20.03**	(8.00)	19.29	16.22	35.53
Dividends (cents per share)	**10.0**	7.0	11.0	8.0	7.0
Net Tangible Asset Backing (pre-tax) (30 June) ($ per share)	**1.63**	1.44	1.70	1.64	1.51
Closing share price (30 June) ($)	**1.685**	1.62	1.77	1.765	1.45
Total fixed remuneration (salary and superannuation) paid ($)	**186,150**	186,150	169,725	169,338	168,950

The remuneration of the Directors is not linked to the performance of the Company.

(1) Expenses were lower in 2017 and 2016 and this related to the reduced management fee rate of 1.1% that applied from 1 January 2016. The increase in expenses from 2014 was primarily due to the increased portfolio size and the impact that this had on those costs that move in line with the increased portfolio size.

Interests of Directors in shares

The relevant interest in ordinary shares of the Company that each Director held at balance date was:

	OPENING BALANCE	ACQUISITIONS	DISPOSALS	CLOSING BALANCE
Bruce Coleman	240,000	9,972	–	249,972
Richard Morath	32,400	9,972	–	42,372
Jim Clegg	20,000	39,972	–	59,972

Auditor's Independence Declaration

pwc

As lead auditor for the audit of Platinum Capital Limited for the year ended 30 June 2017, I declare that to the best of my knowledge and belief, there have been:

1. no contraventions of the auditor independence requirements of the *Corporations Act 2001* in relation to the audit; and

2. no contraventions of any applicable code of professional conduct in relation to the audit.

Joe Sheeran

Partner
PricewaterhouseCoopers

Sydney, 17 August 2017

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Liability limited by a scheme approved under Professional Standards Legislation.

Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2017

	NOTE	2017 $'000	2016 $'000
Investment income			
Dividends		**9,282**	11,476
Interest		**255**	113
Net gains/(losses) on equities/derivatives		**69,054**	(31,203)
Net gains/(losses) on foreign currency forward contracts		**53**	(1,923)
Net foreign exchange gains/(losses) on overseas bank accounts		**(1,558)**	1,227
Total net investment income/(loss)		**77,086**	(20,310)
Expenses			
Management fees	19	**(4,253)**	(4,845)
Non-capitalised expenses in relation to the Placement and Share Purchase Plan	8	**(105)**	–
Custody		**(270)**	(245)
Share registry		**(278)**	(239)
Continuous reporting disclosure		**(199)**	(190)
Directors' fees		**(186)**	(186)
Auditor's remuneration and other services	20	**(87)**	(162)
Transaction costs		**(449)**	(362)
Other expenses		**(196)**	(252)
Total expenses		**(6,023)**	(6,481)
Profit/(loss) before income tax (expense)/benefit		**71,063**	(26,791)
Income tax (expense)/benefit	3(a)	**(21,136)**	8,027
Profit/(loss) after income tax (expense)/benefit for the year attributable to the owners of Platinum Capital Limited	10	**49,927**	(18,764)
Other comprehensive income for the year, net of tax		–	–
Total comprehensive income/(loss) for the year attributable to the owners of Platinum Capital Limited		**49,927**	(18,764)
Basic earnings per share (cents per share)	9	**20.03**	(8.00)
Diluted earnings per share (cents per share)	9	**20.03**	(8.00)

The above statement of profit or loss and other comprehensive income should be read in conjunction with the accompanying notes.

Statement of Financial Position

As at 30 June 2017

	NOTE	**2017 $'000**	2016 $'000
Assets			
Cash and cash equivalents	13	**51,110**	45,070
Receivables	6	**3,250**	1,096
Financial assets at fair value through profit or loss	4	**415,952**	301,012
Income tax receivable	3(b)	**1,210**	3,873
Total assets		**471,522**	351,051
Liabilities			
Payables	7	**4,504**	3,325
Financial liabilities at fair value through profit or loss	5	**1,164**	3,161
Deferred tax liability	3(c)	**20,278**	2,350
Total liabilities		**25,946**	8,836
Net assets		**445,576**	342,215
Equity			
Issued capital	8	**376,895**	304,595
Retained earnings	10	**(18,764)**	(18,764)
Dividend profit reserve	11	**87,445**	56,384
Total equity		**445,576**	342,215

The above statement of financial position should be read in conjunction with the accompanying notes.

Statement of Changes in Equity

For the year ended 30 June 2017

	ISSUED CAPITAL $'000	RETAINED EARNINGS $'000	DIVIDEND PROFIT RESERVE $'000	TOTAL EQUITY $'000
Balance at 1 July 2015	**301,154**	**77,421**	**–**	**378,575**
Transfer to dividend profit reserve (Note 10 and Note 11)	–	(77,421)	77,421	–
Profit/(loss) after income tax expense for the year	–	(18,764)	–	(18,764)
Other comprehensive income for the year, net of tax	–	–	–	–
Total comprehensive income for the year	–	(18,764)	–	(18,764)
Transactions with owners in their capacity as owners:				
Issue of shares in relation to the dividend reinvestment plan and unclaimed dividends (Note 8)	3,441	–	–	3,441
Dividends paid (Note 12)	–	–	(21,037)	(21,037)
Balance at 30 June 2016	**304,595**	**(18,764)**	**56,384**	**342,215**

	ISSUED CAPITAL $'000	RETAINED EARNINGS $'000	DIVIDEND PROFIT RESERVE $'000	TOTAL EQUITY $'000
Balance at 1 July 2016	**304,595**	**(18,764)**	**56,384**	**342,215**
Profit after income tax expense for the year	–	49,927	–	49,927
Other comprehensive income for the year, net of tax	–	–	–	–
Total comprehensive income for the year	–	49,927	–	49,927
Transfer of profit after income tax for the year, to the dividend profit reserve (Note 10 and Note 11)	–	(49,927)	49,927	–
Transactions with owners in their capacity as owners:				
Issue of shares in relation to the dividend reinvestment plan and unclaimed dividends (Note 8)	2,942	–	–	2,942
Issue of shares in relation to the Placement (Note 8)	53,514	–	–	53,514
Issue of shares in relation to the Share Purchase Plan (Note 8)	16,603	–	–	16,603
Transaction costs, on the Placement and Share Purchase Plan, net of tax (Note 8)	(759)	–	–	(759)
Dividends paid (Note 12)	–	–	(18,866)	(18,866)
Balance at 30 June 2017	**376,895**	**(18,764)**	**87,445**	**445,576**

The above statement of changes in equity should be read in conjunction with the accompanying notes.

Statement of Cash Flows

For the year ended 30 June 2017

	NOTE	**2017 $'000**	2016 $'000
Cash flows from operating activities			
Payments for purchase of financial assets		**(242,911)**	(182,628)
Proceeds from sale of financial assets		**194,005**	213,650
Dividends received		**8,344**	11,391
Interest received		**243**	101
Management fees paid		**(4,139)**	(5,030)
Other expenses paid		**(1,835)**	(1,610)
Income tax received/(paid)		**435**	(11,462)
Net cash from/(used in) operating activities	13(b)	**(45,858)**	24,412
Cash flows from financing activities			
Dividends paid – net of dividend re-investment plan		**(15,972)**	(17,703)
Net proceeds from issue of shares in relation to the Placement and Share Purchase Plan	8	**69,358**	–
Proceeds from issue of shares in relation to unclaimed dividends	8	**48**	86
Net cash from/(used in) financing activities		**53,434**	(17,617)
Net increase in cash and cash equivalents		**7,576**	6,795
Cash and cash equivalents at the beginning of the financial year		**45,070**	37,076
Effects of exchange rate changes on cash and cash equivalents		**(1,536)**	1,199
Cash and cash equivalents at the end of the financial year	13(a)	**51,110**	45,070

The above statement of cash flows should be read in conjunction with the accompanying notes.

Notes to the Financial Statements

30 June 2017

Note 1. Significant accounting policies

The principal accounting policies adopted in the preparation of the financial statements are set out below. These policies have been consistently applied to all periods presented, unless otherwise stated.

Basis of preparation

These general purpose financial statements have been prepared in accordance with Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board ("AASB") and the *Corporations Act 2001*, as appropriate for for-profit oriented entities. These financial statements also comply with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IASB").

The financial statements have been prepared on the basis of fair-value measurement of assets and liabilities.

The Statement of Financial Position is presented on a liquidity basis. Specifically, assets and liabilities are presented in decreasing order of liquidity and do not distinguish between current and non-current assets and liabilities. The majority of receivables and payables are expected to be recovered or settled within 12 months, whereas tax and investment balances may be recovered after 12 months.

Critical accounting judgements, estimates and assumptions

The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts in the financial statements. Management continually evaluates its judgements and estimates in relation to assets, liabilities, contingent liabilities, revenue and expenses. Management bases its judgements, estimates and assumptions on historical experience and on other various factors, including expectations of future events, that management believes to be reasonable under the circumstances.

Fair value measurement hierarchy (refer to Note 17)

The Company is required to classify all assets and liabilities, measured at fair value, using a three level hierarchy, based on the lowest level of input that is significant to the entire fair value measurement, being: Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date; Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and Level 3: Unobservable inputs for the asset or liability. Considerable judgement is required to determine what is significant to fair value and therefore which category the asset or liability is placed in can be subjective.

The fair value of assets and liabilities classified as Level 3 (if any) is determined by the use of valuation models. These include discounted cash flow analysis or the use of observable inputs that require significant adjustments based on unobservable inputs.

Notes to the Financial Statements

30 June 2017

Note 1. Significant accounting policies – continued

Basis of preparation – continued

Recovery of deferred tax assets (refer to Note 3)

Deferred tax assets are recognised for deductible temporary differences only if the Company considers it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

Financial assets/liabilities at fair value through profit or loss

Under AASB 139: *Financial Instruments: Recognition and Measurement*, investments are classified in the Company's Statement of Financial Position as "financial assets/liabilities at fair value through profit or loss". Derivatives and foreign currency forward contracts are classified as financial instruments "held for trading" and equity securities are designated at fair value through profit or loss upon initial recognition.

The Company has applied AASB 13: *Fair Value Measurement*. AASB 13 defines fair value as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". AASB 13 increases transparency about fair value measurements, including the valuations techniques and inputs used to measure fair value.

The standard prescribes that the most representative price within the bid-ask spread should be used for valuation purposes. With respect to the Company, the last-sale or "last" price is the most representative price within the bid-ask spread, because it represents the price that the security last changed hands from seller to buyer.

Generally, derivatives take the form of long and short equity swap contracts. Equity swaps are valued based on the price of the underlying investment, which may be a specific share or a share market index. Daily fluctuations in the value of derivatives were recognised as part of "net gains/(losses) on equities/derivatives" in the Statement of Profit or Loss and other Comprehensive Income.

Long equity swap contracts allow the Company to gain exposure to price movements of underlying investments without buying the underlying investment. Under the term of each long equity swap contract, the Company makes a profit if the underlying share price was higher on the date that the contract was closed relative to the price when the contract commenced.

With respect to short equity swap contracts, the Company makes a profit if the underlying share price was lower on the date that the contract was closed relative to the price when the contract commenced.

Note 1. Significant accounting policies – continued

Financial assets/liabilities at fair value through profit or loss – continue

Participatory Notes are sometimes used as a convenient means of investing in local securities by a foreign investor. Participatory Notes are generally traded over-the-counter, as they are issued by a counterparty to provide the investor with exposure to an individual equity or a basket or index of equities, in markets where liquidity, custody or other issues make ownership of the local shares sub-optimal. The valuation of Participatory Notes depends on the level of trading. If the Participatory Notes are actively traded, then the market price is used. Counterparties provide a daily valuation that is based on the intrinsic value of the individual security.

AASB 13 also requires reporting entities to disclose its valuation techniques and inputs. This is described below.

Fair value in an active market

The fair value of financial assets and liabilities traded in active markets uses quoted market prices at reporting date without any deduction for estimated future selling costs. Financial assets are valued using "last-sale" pricing. Gains and losses arising from changes in the fair value of the financial assets/liabilities are included in the Statement of Profit or Loss and other Comprehensive Income in the period they arise.

Foreign currency forward contracts are initially recognised at fair value on the date contracts are entered into and are subsequently remeasured at each reporting date. The fair value is the unrealised profit or loss on the foreign currency position (in Australian dollars).

Fair value in an inactive market or unquoted market

The fair value of financial assets and liabilities that are not traded in an active market is determined using valuation techniques. These include the use of recent arm's length market transactions, discounted cash flow techniques or any other valuation techniques that provides a reliable estimate of prices obtained in actual market transactions. Options are valued with reference to the quoted price of the underlying index or share. If there is no liquid market available, the options are valued based on the option prices provided by an arm's length broker. These valuations are based on option pricing models.

Recognition/derecognition

The Company recognises financial assets and liabilities on the date they become party to the purchase contractual agreement (trade date) and recognises changes in fair value of the financial assets and liabilities from this date. Financial assets and liabilities are no longer recognised on the date they become party to the sale contractual agreement (trade date).

Notes to the Financial Statements

30 June 2017

Note 1. Significant accounting policies – continued

Offsetting a financial asset and a financial liability

Financial assets and liabilities are offset and the net amount reported in the Statement of Financial Position where there is a legally enforceable right to offset recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously.

Transaction costs on financial assets

Initial measurement (cost) on purchase of trading securities shall not include directly attributable transaction costs, such as fees and commissions paid to agents. Incremental transaction costs on purchases of financial assets at fair value through profit or loss are expensed immediately.

Operating segments

Operating segments are presented using a single operating segment. However AASB 8: *Operating Segments* requires certain entity-wide disclosures. Refer to Note 2 for further information.

Foreign currency transactions

Items included in the Company's financial statements are measured using the currency of the primary economic environment in which it operates (the "functional currency"). This is the Australian dollar, which reflects the currency of the country that the Company is regulated, capital is raised and dividends are paid. The Australian dollar is also the Company's presentation currency.

Foreign currency transactions are translated into Australian dollars using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at financial year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the profit or loss.

Investment income

Interest income

Interest income is recognised in the Statement of Profit or Loss and other Comprehensive Income based on nominated interest rates available on the bank accounts held at various locations.

Dividend income

Dividend income is brought to account on the applicable ex-dividend date.

Directors' entitlements

Liabilities for Directors' entitlements to fees are accrued at nominal amounts calculated on the basis of current fee rates. Contributions to Directors' superannuation plans are charged as an expense as the contributions are paid or become payable.

Note 1. Significant accounting policies – continued

Income tax

The income tax expense or benefit for the period is the tax payable or receivable on that period's taxable income based on the applicable income tax rate adjusted by changes in deferred tax assets and liabilities attributable to temporary differences, unused tax losses and the adjustment recognised for prior periods, where applicable. Withholding tax expense on foreign dividends has been included as part of income tax expense.

Deferred tax assets are recognised for deductible temporary differences and unused tax losses only if it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

The carrying amount of recognised and unrecognised deferred tax assets are reviewed at each reporting date. Deferred tax assets recognised are reduced to the extent that it is no longer probable that future taxable profits will be available for the carrying amount to be recovered.

Deferred tax assets and liabilities are offset only where there is a legally enforceable right to offset current tax assets against current tax liabilities and deferred tax assets against deferred tax liabilities; and they relate to the same taxable authority on either the same taxable entity or different taxable entities which intend to settle simultaneously.

Receivables

All receivables are recognised when a right to receive payment is established. Debts that are known to be uncollectible are written off.

Cash and cash equivalents

For the purpose of the Statement of Cash Flows, cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, cash held in margin accounts and other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Margin accounts comprise cash held as collateral for derivative transactions.

Payments and receipts relating to the purchase and sale of investment securities are classified as "cash flows from operating activities" as realised and unrealised gains (and losses) on financial assets and liabilities represent the Company's main operating activity.

Notes to the Financial Statements

30 June 2017

Note 1. Significant accounting policies – continued

Due from/due to brokers for unsettled trades

Amounts due from/due to brokers represent receivables for proceeds from sale of financial assets (as disclosed in Note 6) and payables on purchase of financial assets/liabilities (as disclosed in Note 7) that have been traded, but not yet settled at reporting date. Proceeds from sale of financial assets are usually received between two and five days after trade date. Payables on purchase of financial assets/liabilities are usually paid between two and five days after trade date.

Trade and other payables

These amounts represent liabilities for services provided to the Company prior to the end of the financial year and which are unpaid. Due to their short-term nature they are measured at amortised cost and are not discounted. The amounts are unsecured and are usually paid within 30 days of recognition.

Issued capital

Ordinary shares are classified as equity.

Incremental costs directly attributable to the issue of new shares are shown in equity as a deduction, net of tax, from the proceeds.

Dividends

A provision is booked in the accounts if the Directors declare or determine to pay a dividend on or before balance date that has not been paid at balance date.

Dividend profit reserve

To the extent that any current year or prior period profits are not distributed as dividends, the Company may set aside some or all of the undistributed profits to a separate dividend profit reserve, to facilitate the payment of future franked dividends, rather than maintaining these profits within retained earnings.

Expenses

All expenses, including management fee and performance fee (if any), are recognised in the statement of comprehensive income on an accruals basis.

Basic and diluted earnings per share

Basic and diluted earnings per share are calculated by dividing the profit attributable to the owners of Platinum Capital Limited, by the weighted average number of ordinary shares outstanding during the financial year.

Note 1. Significant accounting policies – continued

Goods and Services Tax ("GST")

Revenues, expenses and assets are recognised net of the amount of associated GST, unless the GST incurred is not recoverable from the tax authority. In this case it is recognised as part of the cost of the acquisition of the asset or as part of the expense.

Cash flows are presented on a gross basis. The GST components of cash flows arising from investing or financing activities which are recoverable from, or payable to the tax authority, are presented as operating cash flows.

Commitments and contingencies are disclosed net of the amount of GST recoverable from, or payable to, the tax authority.

Rounding of amounts

The Company is of a kind referred to in ASIC Corporations (*Rounding in Financial/ Directors' Reports*) Instrument 2016/191, issued by the Australian Securities and Investments Commission, relating to 'rounding-off'. Amounts in these financial statements have been rounded off in accordance with this Instrument to the nearest thousand dollars, or in certain cases, the nearest dollar.

Accounting Standards and Interpretations not yet mandatory or early adopted

The following Australian Accounting Standards and Interpretations have been issued or amended but are not yet mandatory, and have not been early adopted by the Company for the year ended 30 June 2017. The Company's assessment of the impact of these Accounting Standards and Interpretations, most relevant to the Company, are set out below and on the following page.

AASB 15: *Revenue from contracts with customers and amendments to AASB 15*
The main objective of this new standard is to provide a single revenue recognition model based on the transfer of goods and services and the consideration expected to be received in return for that transfer. The Company's main source of income is gains on equities and derivatives, foreign currency forward contracts and overseas bank accounts, as well as interest and dividend income. All of these income types are outside the scope of the standard. The standard is applicable for reporting periods beginning on or after 1 January 2018.

The standard was assessed as not having a material impact on the Company in current or future reporting periods.

Notes to the Financial Statements

30 June 2017

Note 1. Significant accounting policies – continued

Accounting Standards and Interpretations not yet mandatory or early adopted – continued

AASB 2016-1: *Amendments: Recognition of deferred tax assets for unrealised losses*
This amends the AASB 112 *Income taxes* to clarify the requirements on recognition of deferred tax assets for unrealised losses on debt instruments. This amendment is applicable for reporting periods beginning on or after 1 January 2017.

The standard was assessed as having no impact on the Company in the current or future reporting period, as the Company does not carry a material level of debt instruments.

AASB 9: *Financial Instruments (and applicable amendments)*
AASB 9 addresses the classification, measurement and de-recognition of financial assets and financial liabilities. It includes revised rules around hedge accounting and impairment. The standard is not applicable until 1 January 2018.

The standard has been assessed as not having a significant impact on the recognition and measurement of the Company's financial instruments as the financial instruments are carried at fair value through profit or loss.

There are no other standards not yet effective, that are expected to have a material impact on the Company in the current or future reporting periods and on foreseeable future transactions.

Note 2. Operating segments

Identification of reportable operating segments

The Company is organised into one main operating segment with the key function of the investment of funds internationally. AASB 8: *Operating Segments* requires disclosure of revenue by investment type and geographical location, which is outlined below:

	2017 $'000	2016 $'000
(a) Investment income by investment type		
Equity securities	**84,838**	(22,998)
Derivatives	**(6,502)**	3,271
Foreign currency forward contracts	**53**	(1,923)
Bank accounts	**(1,303)**	1,340
Total	**77,086**	(20,310)
(b) Investment income by geographical area		
Japan	**10,618**	(6,276)
Asia ex Japan	**39,921**	(4,955)
Australia	**(364)**	1,158
Europe – Euro	**18,336**	(7,880)
Europe – Other	**36**	(5,700)
North America	**5,962**	7,133
South America	**4**	44
Africa	**2,520**	(1,911)
Unallocated investment income – Net gains/(losses) on foreign currency forward contracts	**53**	(1,923)
Total	**77,086**	(20,310)

Notes to the Financial Statements

30 June 2017

	2017 $'000	2016 $'000
Note 3. Income tax		
(a) Income tax (expense)/benefit		
The income tax (expense)/benefit attributable to the operating profit/(loss) comprises:		
Current income tax provision	**(2,249)**	(7,854)
Movement in deferred tax liability	**(17,928)**	16,605
Withholding tax on foreign dividends	**(657)**	(724)
Placement and Share Purchase Plan offer costs transferred to equity	**(325)**	–
Over provision of prior period tax	**23**	–
Income tax (expense)/benefit	**(21,136)**	8,027
The aggregate amount of income tax attributable to the financial year differs from the prima facie (amount payable)/benefit received on the profit/(loss).		
Profit/(loss) before income tax (expense)/benefit	**71,063**	(26,791)
Prima facie income tax at tax rate of 30%	**(21,319)**	8,037
(Increase)/reduce tax payable:		
Foreign tax credits	**129**	(10)
Placement and Share Purchase Plan offer fees expensed	**31**	–
Over provision of prior period tax	**23**	–
Income tax (expense)/benefit	**(21,136)**	8,027
(b) Income tax receivable		
The income tax receivable as disclosed in the Statement of Financial Position is comprised of:		
Current income tax provision	**(2,249)**	(7,854)
Income tax instalments paid during the year	**3,459**	11,727
Income tax receivable	**1,210**	3,873

Note 3. Income tax – continued

(c) Deferred tax liability

In line with our existing accounting policy, the Company has exercised judgement in determining the extent of recognition of deferred tax balances.

The deferred tax liability figure in the Statement of Financial Position is comprised of:

	2017 $'000	2016 $'000
Dividends receivable	**(470)**	(178)
Unrealised gains on financial assets	**(22,054)**	(4,145)
Audit fees	**6**	13
Taxation services	**5**	6
Shareholder communication and reporting	**55**	51
Differences in cost base for tax compared to accounting	**1,821**	1,755
Capital raising and legal costs (deductible over 5 years)	**359**	148
Deferred tax liability	**(20,278)**	(2,350)

The net deferred tax liability is comprised of $2,246,000 (2016: $1,973,000) of deferred tax asset and $22,524,000 (2016: $4,323,000) of deferred tax liability.

The Company has accumulated net unrealised gains on investments of $73,513,000 (2016: $13,815,000). The tax impact on these unrealised gains of $22,054,000 (2016: $4,145,000) formed a major part of the overall net deferred tax liability.

The settlement of the deferred tax liability will depend on the timing of realisation of investments.

	2017 $'000	2016 $'000
Note 4. Financial assets at fair value through profit or loss		
Equity securities	**412,839**	299,159
Corporate bonds	**292**	278
Derivatives	**370**	166
Foreign currency forward contracts	**2,451**	1,409
	415,952	301,012

The Portfolio has increased in size as a result of strong investment performance and also because the Company received additional net proceeds of $69,358,000 as a result of the Placement and Share Purchase Plan completed during the year. At 30 June 2017, all of these proceeds have been invested.

Notes to the Financial Statements

30 June 2017

	2017 $'000	2016 $'000
Note 5. Financial liabilities at fair value through profit or loss		
Derivatives	**6**	634
Foreign currency forward contracts	**1,158**	2,527
	1,164	3,161

	2017 $'000	2016 $'000
Note 6. Receivables		
Proceeds from sale of financial assets	**1,574**	413
Capital Gains Tax receivable	**49**	30
Dividends receivable	**1,532**	594
Interest receivable	**53**	20
Goods and Services Tax receivable	**42**	39
	3,250	1,096

Proceeds from sale of financial assets are usually received between two and five days after trade date. Dividends are usually received within approximately 30 days of the ex-dividend date. Information relating to the ageing of receivables is shown in Note 16.

	2017 $'000	2016 $'000
Note 7. Payables		
Payables on purchase of financial assets	**3,770**	2,642
Trade creditors (unsecured)	**689**	639
Unclaimed dividends payable to shareholders	**42**	42
PAYG Tax payable	**3**	2
	4,504	3,325

Payables on purchase of financial assets are usually paid between two and five days after trade date. Trade creditors are payable between seven and 30 days after being incurred. These current payables are non-interest bearing. Information relating to the Company's exposure of payables to liquidity risk is shown in Note 16.

	2017 SHARES	2016 SHARES	2017 $'000	2016 $'000
Note 8. Issued capital				
Ordinary shares – fully paid	**283,753,289**	235,332,383	**376,895**	304,595

Movements in ordinary share capital

DETAILS	DATE	SHARES	$'000
Balance	1 July 2015	233,325,992	301,154
Dividend reinvestment plan	11 September 2015	1,222,509	2,225
Reinvestment of unclaimed dividends	17 September 2015	22,716	42
Dividend reinvestment plan	4 March 2016	733,819	1,130
Reinvestment of unclaimed dividends	15 March 2016	27,347	44
Balance	30 June 2016	235,332,383	304,595
Reinvestment of unclaimed dividends	7 September 2016	11,842	18
Dividend reinvestment plan	13 September 2016	986,943	1,471
Shares issued under the Placement*	13 March 2017	35,440,000	53,514
Shares issued under the Share Purchase Plan (SPP)**	21 April 2017	11,038,308	16,603
less transaction costs, net of tax in relation to the Placement and SPP (see breakdown on the following page)			(759)
Dividend reinvestment plan	13 March 2017	924,100	1,423
Reinvestment of unclaimed dividends	20 March 2017	19,713	30
Balance	30 June 2017	283,753,289	376,895

*** On 13 March 2017, the Company completed the Placement of 35,440,000 fully-paid ordinary shares to sophisticated and professional investors at $1.51 per share and raised gross proceeds of $53,514,400.**

**** On 21 April 2017, the Company completed its Share Purchase Plan and allotted 11,038,308 fully-paid ordinary shares at $1.5041 per share and raised gross proceeds of $16,602,719.**

The net proceeds from the completed Placement and Share Purchase Plan were $69,358,000 (gross proceeds of $70,117,000 less transaction costs (net of tax) of $759,000).

Notes to the Financial Statements

30 June 2017

Note 8. Issued capital – continued

Transaction costs in relation to the Placement and Share Purchase Plan (SPP), net of tax

The Company incurred fees and charges associated with the Placement and SPP during the year. A breakdown of these fees and charges that have been deducted against equity are as follows:

	2017 $'000	2016 $'000
Lead Manager Placement fees	**903**	–
Registry charges	**112**	–
Share Purchase Plan broker handling fees	**45**	–
Other fees*	**24**	–
Sub-total	**1,084**	–
Less current and future period tax deductions	**(325)**	–
Total transaction costs	**759**	–

*** Other fees include legal fees, postage charges and non-recoverable GST.**

Non-capitalised expenses

In addition to the above, ASX listing fees of $81,000 and non-recoverable GST of $24,000 ($105,000 in total) relating to the Placement and SPP have been expensed in the profit and loss and shown as "Non-capitalised expenses in relation to the Placement and Share Purchase Plan".

Ordinary shares

Ordinary shares entitle the holder to participate in dividends and the proceeds on the winding up of the Company in proportion to the number of and amounts paid on the shares held. The fully paid ordinary shares have no par value and the Company does not have a limited amount of authorised capital.

On a show of hands every member present at a meeting in person or by proxy shall have one vote and upon a poll each share shall have one vote.

Rights issue or share buy-back

There is no current rights issue or share buy-back in place.

	2017 $'000	2016 $'000
Note 9. Earnings per share		
Profit/(loss) after income tax attributable to the owners of Platinum Capital Limited	**49,927**	(18,764)
	NUMBER	NUMBER
Weighted average number of ordinary shares used in calculating basic and diluted earnings per share	**249,240,654**	234,572,543
	CENTS	CENTS
Basic earnings per share	20.03	(8.00)
Diluted earnings per share	20.03	(8.00)

There have been no conversions to, calls of, or subscriptions for ordinary shares during the current or previous period other than those issued under the Placement, Share Purchase Plan, Dividend Reinvestment Plan and, reinvestment of unclaimed dividends, therefore diluted earnings per share equals basic earnings per share.

	2017 $'000	2016 $'000
Note 10. Retained earnings		
Opening balance	**(18,764)**	77,421
Profit/(loss) after income tax benefit/(expense) for the year	**49,927**	(18,764)
Transfer to dividend profit reserve (see Note 11)*	**(49,927)**	(77,421)
Closing balance	**(18,764)**	(18,764)

* **The Directors passed a resolution that transferred to the dividend profit reserve the 31 December 2016 interim profit after tax and the additional profit after tax made for the period from 1 January 2017 to 30 June 2017.**

Notes to the Financial Statements

30 June 2017

Note 11. Dividend profit reserve

To the extent that any current period or prior year profits are not distributed as dividends, the Company may set aside some or all of the undistributed profits to a separate dividend profit reserve, to facilitate the payment of future franked dividends, rather than maintaining these profits within retained earnings. Operating losses are not transferred to the dividend profit reserve.

	2017 $'000	2016 $'000
Opening balance	**56,384**	–
Transfer of operating profit after tax from retained earnings*	**49,927**	77,421
Dividends paid (see Note 12)	**(18,866)**	(21,037)
Closing balance	**87,445**	56,384

*** Dividends are no longer paid out of retained earnings and are now paid out of the dividend profit reserve. The Directors passed a resolution that transferred to the dividend profit reserve the 31 December 2016 interim profit after tax and the additional profit after tax made for the period 1 January 2017 to 30 June 2017. Subsequent to 30 June 2017, the 2017 final fully-franked dividend was declared out of this reserve. The balance in the dividend profit reserve after the declaration of the 2017 final dividend is $70,420,000 (or 24.82 cents per share, based on the current shares on issue).**

Note 12. Dividends

Dividends paid

Dividends paid during the financial year were as follows:

	2017 $'000	2016 $'000
Final dividend for the year ended 30 June 2016 (2016: 30 June 2015) of 4 cents (2016: 6 cents) per ordinary share	**9,413**	14,000
Interim dividend for the year ended 31 December 2016 (2016: 31 December 2015) of 4 cents (2016: 3 cents) per ordinary share	**9,453**	7,037
	18,866	21,037

Dividends not recognised at year-end

In addition to the above dividends paid, on 17 August 2017, the Directors declared the payment of the 2017 final fully-franked dividend of 6 cents per fully paid ordinary share. The aggregate amount of the dividend expected to be paid on 11 September 2017, but not recognised as a liability at year-end, is $17,025,000. The dividend will be paid out of the dividend profit reserve.

Note 12. Dividends – continued

Franking credits

	2017 $'000	2016 $'000
Franking credits available at the balance date based on a tax rate of 30%	**9,531**	18,052
Franking credit/(debits) that will arise from the tax payable/(receivable) at balance date based on a tax rate of 30%	**(1,210)**	(3,873)
Franking credits available for subsequent financial years based on a tax rate of 30%	**8,321**	14,179
Franking debits that will arise from the payment of dividends declared subsequent to the balance date based on a tax rate of 30%	**(7,297)**	(4,034)
Net franking credits available based on a tax rate of 30%	**1,024**	10,145

Note 13. Notes to the statement of cash flows

(a) Components of cash and cash equivalents

	2017 $'000	2016 $'000
Cash at bank*	**51**	46
Cash on deposit held within the portfolio**	**51,059**	45,024
	51,110	45,070

*** Cash at bank includes $41,000 (2016: $37,000) held in respect of unclaimed dividends on behalf of shareholders.**

**** Cash on deposit includes $8,800,000 (2016: $9,804,000) on deposit to 'cash cover' derivative contracts' deposits and margin calls.**

These amounts are held by the relevant derivative exchanges and counterparties as security. If losses are realised, the cash balances are set off against those losses. If profits are realised on the close out of derivative contracts, the money is returned to the Company.

The Company maintains bank accounts at various locations throughout the world to enable the settlement of purchases and sales of investments and to conduct other normal banking transactions.

All accounts are at call and the majority bear floating interest rates in the range of –1.50% to 1.40% (2016: –0.60% to 1.90%).

Notes to the Financial Statements

30 June 2017

Note 13. Notes to the statement of cash flows – continued

(b) Reconciliation of profit/(loss) after income tax to net cash from/(used in) operating activities

	2017 $'000	2016 $'000
Profit/(loss) after income tax (expense)/benefit for the year	**49,927**	(18,764)
Adjustments for non-operating and non-cash items:		
Foreign exchange differences	**1,536**	(1,199)
Decrease/(Increase) in investment securities and foreign currency forward contracts	**(116,937)**	62,597
Change in operating assets and liabilities:		
(Increase) in deferred tax asset	**(273)**	(965)
(Increase) in settlements receivable	**(1,161)**	(394)
Increase in settlement payable	**1,128**	2,642
(Increase) in interest receivable	**(33)**	(13)
(Increase) in dividends receivable	**(938)**	(86)
Decrease/(increase) in Capital Gains Tax receivable	**(19)**	1
(Decrease)/increase in trade and other payables	**51**	(177)
(Decrease)/increase in deferred tax liability	**18,201**	(15,640)
Decrease/(increase) in Goods and Services Tax receivable	**(3)**	18
Decrease/(increase) in income tax receivable	**2,663**	(3,608)
Net cash from/(used in) operating activities	**(45,858)**	24,412

Non-cash financing activities

During the year, 1,942,598 (2016: 2,006,391) shares were issued under the Dividend Reinvestment Plan (DRP) and re-investment of unclaimed dividends. Dividends settled in shares rather than cash during the year totalled $2,942,000 (2016: $3,441,000).

	2017 $'000	2016 $'000
Note 14. Statement of Net Tangible Asset Backing (NTA)		
Reconciling Net Tangible Asset Backing (post-tax) in accordance with Australian Accounting Standards to that reported to the ASX*		
Post-tax Net Tangible Asset Backing per Statement of Financial Position	**445,576**	342,215
Realisation costs* and accruals	**(1,063)**	(768)
Deferred income tax asset on realisation costs	**392**	225
Net Tangible Asset Backing – (post-tax)	**444,905**	341,672

The post-tax Net Tangible Asset Backing per share at 30 June 2017 was $1.5679 per share (30 June 2016: $1.4519).

* **Financial assets and liabilities were valued at "last-sale" price for both ASX and financial accounts reporting. The difference between the ASX and financial accounts reporting is mainly caused by the ASX requirement that realisation costs need to be deducted for ASX reporting of NTA.**

Notes to the Financial Statements

30 June 2017

Note 15. Investment Portfolio

All Investments below are ordinary shares, unless stated otherwise.

	QUANTITY	2017 FAIR VALUE $'000
Japan		
Alpine Electronics	57,099	1,111
Asahi	94,755	4,636
Descente	117,000	2,058
Ebara	97,699	3,516
Inpex	753,391	9,424
Itochu	263,711	5,093
JSR	102,383	2,295
Lixil	361,363	11,745
Murata Manufacturing	5,700	1,126
Nexon	264,277	6,789
Nintendo	11,410	4,975
Rakuten	524,585	8,024
Sumitomo Metal Mining	247,867	4,303
Toyota Industries	84,833	5,801
Ushio	107,548	1,757
Total Japan		**72,653**
Asia ex Japan		
China		
58.com – American Depository Receipt	101,211	5,806
Alibaba – American Depository Receipt	21,500	3,940
Anta Sports	1,567,152	6,738
Baidu.com – American Depository Receipt	34,896	8,117
China Pacific Insurance	1,378,047	7,326
EcoGreen International	17,302,140	4,556
Jiangsu Yanghe Brewery – Participatory Notes	308,676	5,177
Jiangsu Yanghe Brewery – long equity swap	50,400	(6)
PICC Property & Casualty – H Shares	3,523,229	7,656
Ping An A Share – Participatory Notes	603,962	5,747
Ping An Insurance – H Shares	347,578	2,980

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
Asia ex Japan – continued		
China – continued		
Sina Corp	75,867	8,384
Tencent	238,022	11,075
Weibo Corp – American Depository Receipt	6,886	595
Weichai Power	673,127	767
Weichai Power – Participatory Notes	671,000	1,702
Weichai Power – long equity swap	320,420	89
Weifu High Technology – B Shares	171,789	529
		81,178
Hong Kong		
ENN Energy	764,654	6,002
Summit Ascent	3,597,233	1,031
		7,033
India		
Adani Ports and Special Economic Zone	294,362	2,152
Axis Bank	280,295	2,920
ICICI Bank	638,746	3,732
IDFC	155,573	173
IDFC Bank	2,209,431	2,434
NTPC	1,416,341	4,534
NTPC – corporate bond	271,178	292
PTC India	896,528	1,743
Reliance Industries	169,951	4,723
		22,703
Thailand		
Kasikornbank – Non-Voting Depository Receipt	323,432	2,461
Kasikornbank – Foreign	177,014	1,354
		3,815

Notes to the Financial Statements

30 June 2017

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
Asia ex Japan – continued		
Taiwan		
Taiwan Semiconductor Manufacturing	130,000	1,158
		1,158
South Korea		
Hyundai Motor	39,164	7,101
KB Financial	123,140	8,077
LG Chem	18,734	6,197
Samsung Electronics	6,552	16,580
Samsung SDI	2,600	507
		38,462
Malaysia		
Genting Bhd	1,666,949	4,752
		4,752
Vietnam		
Vietnam Enterprise	537,600	3,471
Vietnam Dairy Products	860,793	7,762
		11,233
Total Asia ex Japan		**170,334**
Australia		
Vantage Goldfields	1,000,000	–
Total Australia		**–**
Europe – Euro		
France		
Casino Guichard Perrachon	52,337	4,035
Kering	23,290	10,324
Sanofi	68,779	8,564
		22,923

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
Europe – Euro – continued		
Germany		
Hornbach Baumarkt	69,109	3,246
Hornbach	8,721	976
K+S	167,850	5,595
Qiagen – American Depository Receipt	76,199	3,323
Qiagen	119,476	5,173
Rheinmetall	4,447	549
		18,862
Italy		
Eni	164,816	3,224
Intesa Sanpaolo	2,107,615	8,697
Mediobanca	341,401	4,385
		16,306
Total Europe – Euro		**58,091**
Europe – Other		
Norway		
Schibsted – A share	90,619	2,847
Schibsted – B share	85,575	2,460
		5,307
Denmark		
Pandora	17,900	2,174
		2,174
Sweden		
Ericsson	161,143	1,499
		1,499
Switzerland		
Roche	12,600	4,182
		4,182

Notes to the Financial Statements

30 June 2017

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
Europe – Other – continued		
Russia		
MMC Nornickel – American Depository Receipt	154,362	2,770
		2,770
United Kingdom		
AstraZeneca	98,441	8,567
Gemfields	2,375,780	1,293
Royal Dutch Shell	221,306	7,641
TechnipFMC	48,800	1,723
		19,224
Total Europe – Other		**35,156**
North America		
Canada		
Constellation Software	1,355	922
Great Basin Gold	192,636	–
		922
United States		
Alphabet (Google)	11,866	14,123
Coca-Cola	56,493	3,295
Conagra Brands – short equity swap	(19,300)	41
Gilead Sciences	78,500	7,226
Intel	93,832	4,118
Johnson & Johnson	13,000	2,237
Jones Lang LaSalle	21,840	3,551
Kellogg – short equity swap	(10,300)	5
Nielsen	63,743	3,205
Oracle	162,800	10,616
PayPal	62,068	4,332
Russell Mini Sept 2017 – index future	(51)	27

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
North America – continued		
United States – continued		
S&P Sept 2017– index futures	(261)	67
Schlumberger	14,650	1,254
Skyworks Solutions	17,820	2,224
Smurfit Stone ESCROW	225,000	–
TechnipFMC – US	216,524	7,660
Tesla Motors – short equity swap	(1,204)	33
WalMart – short equity swap	(41,217)	108
Wynn Resorts	34,680	6,049
		70,171
Total North America		**71,093**
South America		
Brazil		
Cielo S.A.	188,517	1,823
		1,823
Peru		
Peru Holding De Turismo	1,667,523	–
		–
Total South America		**1,823**
Africa		
Zimbabwe		
Axia Corp	1,391,123	176
Econet Wireless Holdings	3,033,910	1,421
Innscor Africa	1,545,692	1,447
Masimba Holdings	6,879,563	465
Simbisa Brands	1,391,123	362
		3,871

Notes to the Financial Statements

30 June 2017

	QUANTITY	2017 FAIR VALUE $'000
Note 15. Investment Portfolio – continued		
Africa – continued		
Nigeria		
Union Bank of Nigeria	19,198,940	474
		474
Total Africa		**4,345**
Total equities, corporate bonds and derivatives (Note 4 and Note 5)*		**413,495**

* From Note 4 (financial assets), the total of equity securities was $412,839,000, the total of corporate bonds was $292,000 and the total of derivatives was $370,000 less from Note 5 (financial liabilities), the total of derivatives of $6,000. This results in a total of $413,495,000.

Add	
Receivable from the proceeds from sale of financial assets (Note 6)	1,574
Payables on purchase of financial assets (Note 7)	(3,770)
Dividends receivable (Note 6)	1,532
Cash on deposit held within the portfolio (Note 13)	51,059
Foreign currency forward contracts (Note 4 and Note 5)	1,293
Total Investment Portfolio (reconciles to Note 16: Foreign exchange risk on page 60)	465,183

The total number of securities transactions entered into during the reporting period, together with total brokerage paid during the reporting period was:

Number of transactions – 1,577

Total brokerage paid – $1,052,000 ($449,000 on purchases and $603,000 on sales)

Note 16. Financial risk management

Financial risk management objectives

The Company's primary risks are related to the investment activities undertaken on its behalf by Platinum Investment Management Limited. The risks that the Company is exposed to include: market risk (including currency and price risk), credit risk and liquidity risk.

The Investment Manager, Platinum Investment Management Limited's investment style:

(i) adopts a bottom-up stock selection methodology, through which long-term capital growth is sought by investing in undervalued securities across the world;

(ii) seeks absolute returns and not returns relative to any index;

(iii) invests excess funds in cash when undervalued stocks cannot be found; and

(iv) actively manages currency.

Derivatives (which include equity swaps, futures and options) are utilised for risk management purposes and to take opportunities to increase returns.

The underlying value of derivatives held by the Company may not exceed 100% of the portfolio value. The underlying value of long stocks and derivative contracts may not exceed 150% of the portfolio value. Where options are employed, the underlying value will be the delta-adjusted exposure. Compliance with these limits is reviewed by the Board and the Audit, Risk and Compliance Committee on a regular basis.

The table below and on the following page summarises the Company's investments at fair value and derivative exposure.

2017	PHYSICAL $'000	LONG DERIVATIVES CONTRACTS $'000	SHORT DERIVATIVES CONTRACTS $'000	NET EXPOSURE $'000
Japan	**72,653**	**–**	**–**	**72,653**
Asia ex Japan*	**170,251**	**1,650**	**–**	**171,901**
Europe – Euro	**58,091**	**–**	**–**	**58,091**
Europe – Other	**35,156**	**–**	**–**	**35,156**
North America	**70,812**	**–**	**(52,232)**	**18,580**
South America	**1,823**	**–**	**–**	**1,823**
Africa	**4,345**	**–**	**–**	**4,345**
	413,131	**1,650**	**(52,232)**	**362,549**

Notes to the Financial Statements

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Note 16. Financial risk management – continued

Financial risk management objectives – continued

2016	PHYSICAL $'000	LONG DERIVATIVES CONTRACTS $'000	SHORT DERIVATIVES CONTRACTS $'000	NET EXPOSURE $'000
Japan	37,403	–	–	37,403
Asia ex Japan	102,770	7,806	–	110,576
Australia	2,602	–	–	2,602
Europe – Euro	47,569	–	–	47,569
Europe – Other	34,003	–	(1,158)	32,845
North America	72,913	–	(56,743)	16,170
South America	42	–	–	42
Africa	2,135	–	–	2,135
	299,437	7,806	(57,901)	249,342

The "Physical" column represents the location of the Company's investments. The Investments shown on the previous page in the "Physical" column (totalling $413,131,000 for 2017) reconcile to the fair value of equity securities and corporate bonds disclosed in Note 4, being $412,839,000 for equity securities and $292,000 for corporate bonds.

* The three largest contributors to the "Asia ex Japan" category at 30 June 2017 were as follows:

	PHYSICAL EXPOSURE $'000	NET EXPOSURE $'000
Chinese investments (including Chinese investments listed on the Hong Kong stock exchange)	81,095	82,745
Korea	38,462	38,462
India	22,703	22,703

The "Long/Short Derivatives Contracts" columns include the notional value of long/short equity swaps and futures. The "Net Exposure" column represents an approximation of the Investment Portfolio's exposure to movements in markets. This is calculated by making an adjustment to the "Physical" position, by adding any long (bought) derivative positions in shares or share index futures and subtracting the principal notional amount of any short (sold) positions. For example, if 5% of the Portfolio was invested in Japan, but there was a 2% short position in Nikkei futures, then the net exposure column would show 3%. Conceivably, the figure could show a negative exposure, which would indicate that the Portfolio was net short the Japanese market.

Note 16. Financial risk management – continued

Market risk

Foreign exchange risk

Foreign exchange risk is the risk the fair values or future cash flows of a financial instrument will fluctuate due to changes in foreign exchange rates. The Company operates internationally and is exposed to foreign exchange risk arising from buying, selling and holding investments denominated in foreign currencies. Platinum Investment Management Limited selects stocks based on value regardless of geographic location. The Company undertakes certain transactions denominated in foreign currencies and is exposed to foreign currency risk through foreign exchange rate fluctuations.

Currency hedging is an integral part of the management of currency risk. Platinum Investment Management Limited may position the Company's Portfolio in what it believes will be a stronger currency(ies). The Company decreased its Australian Dollar, US Dollar and Hong Kong Dollar exposures compared to a year ago (the Australian Dollar exposure decreased from 17% at 30 June 2016 to 2% at 30 June 2017 and US Dollar and Hong Kong Dollar exposures reduced from 55% at 30 June 2016 to 47% at 30 June 2017) and increased its exposure to the Japanese Yen (increased from 0.3% at 30 June 2016 to 8% at 30 June 2017) and Korean Won (increased from 2% at 30 June 2016 to 6% at 30 June 2017). The Company is fully hedged out of the Chinese Yuan.

The Company is hedged back 47% into US Dollars (including Hong Kong Dollars), with 27% in European currencies including Norwegian Krone and Swiss Francs.

Platinum Investment Management Limited may use foreign currency forward contracts, and futures and option contracts on foreign currency forward contracts to position the Portfolio in the desired currencies. A currency exposure may be hedged into a different currency from that which the physical exposure is maintained (for example, US Dollar hedges may be used to hedge the currency risk of holding investments in the Japanese Yen).

Where there have been major currency movements or where currencies are perceived to be over or undervalued, Platinum Investment Management Limited may look for investments whose operating environment has been distorted by the lower currency as part of the search for undervalued stocks. There may be even opportunities to invest in stocks impacted by a lower currency (for example, export-oriented stocks).

The table on the following page summarises the Company's investment exposure at fair value to foreign exchange risk. The total "Physical" column and "Net Exposure" column reconciles to the total investment portfolio in Note 15.

Notes to the Financial Statements

30 June 2017

Note 16. Financial risk management – continued

Market risk – continued

Foreign exchange risk – continued

2017	PHYSICAL $'000	BOUGHT $'000	SOLD $'000	NET EXPOSURE $'000
Japan	**73,904**	**4,529**	**(39,838)**	**38,595**
Asia ex Japan*	**141,099**	**–**	**(29,994)**	**111,105**
Australia	**7,902**	**14,852**	**(12,500)**	**10,254**
Europe – Euro	**68,196**	**19,454**	**(7,667)**	**79,983**
Europe – Other	**24,735**	**26,464**	**–**	**51,199**
North America	**147,040**	**63,291**	**(38,591)**	**171,740**
South America	**1,833**	**–**	**–**	**1,833**
Africa	**474**	**–**	**–**	**474**
	465,183	**128,590**	**(128,590)**	**465,183**

2016	PHYSICAL $'000	BOUGHT $'000	SOLD $'000	NET EXPOSURE $'000
Japan	37,921	–	(36,987)	934
Asia ex Japan	92,303	–	(61,504)	30,799
Australia	14,711	42,060	–	56,771
Europe – Euro	44,863	24,737	(16,571)	53,029
Europe – Other	25,683	14,657	–	40,340
North America	124,919	96,436	(62,828)	158,527
South America	372	–	–	372
Africa	468	–	–	468
	341,240	177,889	(177,889)	341,240

* The largest contributors to the "Asia ex Japan" category at 30 June 2017 were as follows:

	NET EXPOSURE $'000	CURRENCY EXPOSURE %
Hong Kong Dollar	48,844	10.5
Korean Won	28,841	6.2
Indian Rupee	22,794	4.9
Chinese Yuan	(6,047)	(1.3)
Other Asian currencies	16,673	3.6
	111,105	23.9

Note 16. Financial risk management – continued

Market risk – continued

Foreign exchange risk – continued

Foreign currency forward contracts are adjusted against the "Physical" column to arrive at a "Net Exposure" for each currency grouping. The Company generally utilises short dated (90 day maturity) currency agreements with high-credit rated counterparties. The existing foreign currency forward contract positions' maturity date is 82 days from the balance sheet date.

Foreign exchange risk sensitivity analysis

The table below summarises the sensitivities of the Company's profit to foreign exchange risk. The analysis is based on the assumption that the Australian Dollar strengthened by 10% against the United States Dollar and Euro (shown in the +10% column) and weakened by 10% against the United States Dollar and Euro (shown in the –10% column). These two currencies are the material foreign currencies to which the Company was exposed at 30 June 2017.

A sensitivity of 10% has been selected as this is considered reasonably possible given current exchange rates and the volatility observed both on a historic basis and after factoring in possible future movements. The sensitivity has been undertaken on a combined basis for both monetary assets and liabilities and financial assets and liabilities measured at fair value through profit and loss, as the Company believes this accurately portrays the Company's exposure to foreign exchange risk.

	AUD STRENGTHENED		**AUD WEAKENED**	
2017	**INCREASE % CHANGE**	**EFFECT ON PROFIT BEFORE TAX ($'000)**	**DECREASE % CHANGE**	**EFFECT ON PROFIT BEFORE TAX ($'000)**
United States Dollar	**10%**	**(15,150)**	**(10%)**	**18,517**
Euro	**10%**	**(6,969)**	**(10%)**	**8,518**
Other	**10%**	**(21,980)**	**(10%)**	**26,865**
		(44,099)		**53,900**

	AUD STRENGTHENED		AUD WEAKENED	
2016	INCREASE % CHANGE	EFFECT ON PROFIT BEFORE TAX ($'000)	DECREASE % CHANGE	EFFECT ON PROFIT BEFORE TAX ($'000)
United States Dollar	10%	(14,181)	(10%)	17,332
Euro	10%	(4,821)	(10%)	5,892
Other	10%	(6,584)	(10%)	8,047
		(25,586)		31,271

Notes to the Financial Statements

30 June 2017

Note 16. Financial risk management – continued

Market risk – continued

Foreign exchange risk sensitivity analysis – continued

The sensitivity analysis shows that the Company is materially affected by exchange rate movements (other things being equal), given the global nature of the investments held.

Interest rate risk

Interest rate risk is the possibility the fair value or future cash flows of a financial instrument will fluctuate due to changes in market interest rates.

The majority of the Company's financial assets and liabilities are non-interest bearing as the Company has a policy of not borrowing, other than for settlement of trades. Cash holdings are directly affected by interest rate movements, but at balance date, interest rates on these cash accounts are very low (and range from –1.50% to 1.40%).

Interest rate risk indirectly affects the Company as interest rate movements will affect forward points used in determining gains or losses on forward contracts.

The impact of interest rate movements on our investments is not capable of precise estimation. At 30 June 2017 and 2016, if interest rates had changed by +/–100 basis points with all other variables held constant, the direct impact on interest income would not be significant for the Company.

Price risk

Market prices fluctuate due to a range of factors specific to the individual investments, or factors affecting the market in general. Platinum Investment Management Limited's stock selection process is core to the management of price risk. Platinum adopts a thematic stock selection approach and is referred to as being an "active manager". Platinum Investment Management Limited seeks a broad range of investments whose businesses and growth prospects, it believes, are being undervalued by the market. Accordingly, holdings in the Company may vary considerably from the make-up of a general index. Investment Managers such as Platinum Investment Management Limited seek to outperform the market as represented by an appropriate index.

As an additional risk management tool, the Company may enter into short equity swaps and futures to protect against market movements. At 30 June 2017, the Company maintained short positions against market indices and company-specific stocks. The use of index derivatives allows the Company to invest in specific companies, whilst providing some degree of protection against more general adverse market price movements. At 30 June 2017, the Company has a blend of both index and stock specific positions. The index short positions relate to the US and the Manager's belief that the technology sector is extended. The stock specific positions primarily relate to companies that sell consumer-packaged goods and the Investment Manager's view about their ability to adapt to an e-commerce enabled world.

Note 16. Financial risk management – continued

Market risk – continued

Price risk sensitivity analysis

Price risk exposure arises from the Company's investment portfolio, which comprises investments in securities and derivatives. At 30 June 2017, the two markets that the Company had the biggest investment exposure to are China (including Chinese investments listed on the Hong Kong stock exchange) and Japan. The effect on profit due to a possible change in market factors, as represented by a –/+10% movement in these markets with all other variables held constant, is illustrated in the table below:

2017	**INCREASE % CHANGE**	**EFFECT ON PROFIT BEFORE TAX ($'000)**	**DECREASE % CHANGE**	**EFFECT ON PROFIT BEFORE TAX ($'000)**
China (including Chinese investments listed on the Hong Kong stock exchange)	**10%**	**8,110**	**(10%)**	**(8,110)**
Japan	**10%**	**7,265**	**(10%)**	**(7,265)**
Other	**10%**	**25,337**	**(10%)**	**(25,337)**
		40,712		**(40,712)**

2016	INCREASE % CHANGE	EFFECT ON PROFIT BEFORE TAX ($'000)	DECREASE % CHANGE	EFFECT ON PROFIT BEFORE TAX ($'000)
China (including Chinese investments listed on the Hong Kong stock exchange)	10%	5,652	(10%)	(5,652)
Japan	10%	3,740	(10%)	(3,740)
Other	10%	19,844	(10%)	(19,844)
		29,236		(29,236)

A sensitivity of 10% has been selected, as this is considered reasonably possible. The markets specified are a reference point only. Actual movements in stocks held in the portfolio may vary significantly to movements in the respective markets.

Credit risk

Credit risk relates to the risk of a counterparty defaulting on a financial obligation resulting in a loss to the Company (typically "non-equity" financial instruments or cash/deposit holdings). The exposure to credit risk for cash and cash equivalents, futures, equity swaps, and foreign currency forward contracts is any unrealised profit, margins and collateral paid on the positions (the money the Company would lose if the counterparty defaulted) at reporting date.

Notes to the Financial Statements

30 June 2017

Note 16. Financial risk management – continued

Credit risk – continued

The table below shows the Company's counterparty credit risk exposure by credit rating:

	2017 $'000	2016 $'000
Ratings		
A	**41,220**	35,220
A–	**10,973**	11,264
BBB+	**12,310**	7,916
BBB	**436**	430
Total	**64,939**	54,830

Platinum Investment Management Limited regularly monitors the Company's credit risk exposure to counterparties and seeks to manage the risk by spreading exposure over a number of counterparties by signing standard ISDA (International Swaps and Derivatives Association) master agreements and net settlement contracts, employing two-way symmetrical margining of unrealised profits and losses and by controlling the duration of contracts to be short-term. Transactions in listed securities and investments are entered into with approved brokers. Payment is only made once a broker has received securities and delivery of securities sold only occurs once the broker receives payment.

	2017 $'000	2016 $'000
The Company's ageing analysis of receivables at 30 June 2017 is as follows:		
0-30 days	**2,006**	707
31-60 days	**1,180**	353
61-90 days	**–**	–
90+ days	**1,274**	3,909
Total*	**4,460**	4,969

*** The total amount of $4,460,000 (2016: $4,969,000) reconciles to the balances shown in Note 6 of $3,250,000 (2016: $1,096,000) and Note 3(b) of $1,210,000 (2016: $3,873,000). Amounts receivable more than 90 days include $1,210,000 (2016: $3,873,000) of income tax receivable for tax instalments paid and this amount will not be refunded until the tax return is lodged and processed later this year.**

Note 16. Financial risk management – continued

Liquidity risk

Liquidity risk is the risk the Company will encounter difficulty in meeting obligations associated with financial liabilities. This includes the risk that the Company will:

(i) not have sufficient funds to settle a transaction on the due date; and

(ii) be forced to sell financial assets at a value which is less than they are worth.

Remaining contractual maturities

The following table details the Company's remaining contractual maturity for its financial and non-financial liabilities. The table has been drawn up based on the undiscounted cash flows of financial and non-financial liabilities based on the earliest date on which the financial and non-financial liabilities are required to be paid.

2017	WITHIN 3 MONTHS $'000	BETWEEN 3 AND 12 MONTHS $'000	TOTAL $'000
Non-financial			
Payables on purchase of financial assets, trade creditors, dividends payable and PAYG tax payable (Note 7)	**4,445**	**59**	**4,504**
Total non-financial	**4,445**	**59**	**4,504**
Financial			
Derivative contractual outflows (Note 5)	**6**	**–**	**6**
Foreign currency forward contractual outflows (Note 5)	**1,158**	**–**	**1,158**
Total financial	**1,164**	**–**	**1,164**

2016	WITHIN 3 MONTHS $'000	BETWEEN 3 AND 12 MONTHS $'000	TOTAL $'000
Non-financial			
Payables on purchase of financial assets, trade creditors, dividends payable and PAYG tax payable (Note 7)	3,325	–	3,325
Total non-financial	3,325	–	3,325
Financial			
Derivative contractual outflows (Note 5)	634	–	634
Foreign currency forward contractual outflows (Note 5)	2,269	258	2,527
Total financial	2,903	258	3,161

Notes to the Financial Statements

30 June 2017

Note 16. Financial risk management – continued

Liquidity risk – continued

Remaining contractual maturities – continued

At 30 June 2017, there are no other contractual amounts payable after six months.

The Company has sufficient funds to meet these liabilities as the value of total net assets realisable in one year or less is $470,309,000 (2016: $347,860,000). Assets that are realisable in one year or less include equities, derivatives, cash and cash equivalents.

Except for equity swaps and futures, the maximum capital risk resulting from financial instruments is determined by the fair value of financial instruments. Potential losses from equity swaps and futures are limited to available capital.

The risk management guidelines adopted are designed to minimise liquidity risk through:

(i) ensuring that there is no significant exposure to illiquid or thinly traded financial instruments; and

(ii) applying limits to ensure there is no concentration of liquidity risk to a particular counterparty or market.

Platinum Investment Management Limited prepares daily cash forecasts for the Company and maintains sufficient cash to meet normal operating requirements. The Company has a policy of not borrowing money, other than on a short term basis for settlement, trading and like purposes.

Fair value of financial instruments

Unless otherwise stated, the carrying amounts of financial instruments reflect their fair value.

Capital risk management

The Company considers its capital to comprise ordinary share capital, reserves and accumulated retained profits.

The Company's key objectives are to deliver attractive returns to shareholders over time, made up of capital growth and fully-franked dividends and contain capital losses by mitigating the impact of market downturns.

Note 16. Financial risk management – continued

Capital risk management – continued

The Board will give active consideration, as appropriate, to enhancing shareholder value through the:

- management of the level of dividends to shareholders;
- issue of shares by methods such as rights offers, share purchase plans or placements; or
- use of share buy-backs.

The Company is an ASX-listed investment company and is subject to various ASX Listing Rules requirements. For example, the Company must report its Net Tangible Asset Backing per share (NTA) to the ASX on a monthly basis. The Company complies with all externally-imposed capital requirements.

Note 17. Fair value measurement

Fair value hierarchy

AASB 13: *Fair Value Measurement* requires the Company to classify its assets and liabilities held at fair value using the following fair value hierarchy model:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset and liability, either directly or indirectly.

Level 3: Unobservable inputs for the asset or liability.

The Company measures and recognises the following financial assets and liabilities at fair value, pursuant to AASB 13, on a recurring basis:

(i) Equity securities, long equity swaps and long futures;

(ii) Corporate bonds;

(iii) Short equity swaps and short futures; and

(iv) Foreign currency forward contracts.

Notes to the Financial Statements

30 June 2017

Note 17. Fair value measurement – continued

Fair value hierarchy – continued

The following table details the Company's assets and liabilities, measured or disclosed at fair value, using a three level hierarchy model. The Company has no assets or liabilities that are classified as Level 3.

2017	LEVEL 1 $'000	LEVEL 2 $'000	TOTAL $'000
Assets			
Equity securities	**400,213**	**12,626**	**412,839**
Corporate bonds	**–**	**292**	**292**
Derivatives	**94**	**276**	**370**
Foreign currency forward contracts	**–**	**2,451**	**2,451**
Total assets	**400,307**	**15,645**	**415,952**
Liabilities			
Derivatives	**–**	**6**	**6**
Foreign currency forward contracts	**–**	**1,158**	**1,158**
Total liabilities	**–**	**1,164**	**1,164**

2016	LEVEL 1 $'000	LEVEL 2 $'000	TOTAL $'000
Assets			
Equity securities	287,197	11,962	299,159
Corporate bonds	–	278	278
Derivatives	–	166	166
Foreign currency forward contracts	–	1,409	1,409
Total assets	287,197	13,815	301,012
Liabilities			
Derivatives	284	350	634
Foreign currency forward contracts	–	2,527	2,527
Total liabilities	284	2,877	3,161

The figures presented above can be reconciled to Note 4 or Note 5 and the Statement of Financial Position.

The Company's policy is to recognise transfers into and transfers out of fair value hierarchy levels as at the end of the reporting period. During the year, one Vietnamese security with a market value of $3.5 million (at 30 June 2017) was transferred from Level 2 to Level 1, as the security is now trading on an active market (London Stock Exchange).

Note 17. Fair value measurement – continued

Fair value hierarchy – continued

Rationale for classification of assets and liabilities as Level 1

At 30 June 2017, 96% of the equity securities and derivatives held by the Company are valued using unadjusted quoted prices in active markets and are classified as Level 1 in the fair-value hierarchy model.

Rationale for classification of assets and liabilities as Level 2

There were certain financial instruments that have been classified as Level 2, because a degree of adjustment has been made to the quoted price i.e., whilst all significant inputs required for fair value measurement are observable and quoted in an active market, there is a degree of estimation involved in deriving the fair value. Examples include:

(i) foreign currency forward contracts are classified as Level 2 even though forward points are quoted in an active and liquid market. The forward themselves are based on interest rate differentials;

(ii) Participatory Notes are classified as Level 2 because they are generally traded Over-The-Counter (OTC) and are often priced in a different currency to the underlying security;

(iii) Over-The-Counter (OTC) equity swap contracts are classified as Level 2 because the swap contract itself is not listed and therefore there is no directly observable market price; or the price is sourced from the relevant counterparty, even though the price (and in the case of options, the relevant delta) can be verified directly from Bloomberg or verified using option pricing models. However, the underlying securities referred to in this swap contract do have a directly observable price in an active market; and

(iv) certain index derivatives are classified as Level 2 because the Company may agree with the counterparty to include or exclude one or more securities that make up the "basket" of securities that comprise the index derivative. Hence, the quoted price of the index derivative would be very similar, but not identical to the index derivative that the Company held.

Note 18. Offsetting of financial assets and financial liabilities

Offsetting and master netting agreements

The Company enters into derivative transactions under International Swaps and Derivatives Association (ISDA) master netting agreements. In general, the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other, if

I. there is a legally enforceable right to set-off the financial asset and financial liability; and

Notes to the Financial Statements

30 June 2017

Note 18. Offsetting of financial assets and financial liabilities – continued

Offsetting and master netting agreements – continued

II. the Company intends to settle the financial asset and financial liability on a net basis, or realise the financial asset and settle the financial liability simultaneously.

The gross and net positions of financial asset and liabilities that have been offset in the Statement of Financial Position are disclosed in the first three columns of the following table:

	AMOUNTS OFFSET IN THE STATEMENT OF FINANCIAL POSITION			RELATED AMOUNTS NOT SET-OFF IN THE STATEMENT OF FINANCIAL POSITION		
2017	GROSS AMOUNTS $'000	GROSS AMOUNTS SET-OFF IN THE STATEMENT OF FINANCIAL POSITION $'000	NET AMOUNTS IN THE STATEMENT OF FINANCIAL POSITION $'000	FINANCIAL INSTRUMENTS[1] $'000	CASH COLLATERAL $'000	NET AMOUNT $'000
Financial assets						
Derivatives	**370**	**–**	**370**	**(6)**	**–**	**364**
Foreign currency forward contracts	**2,924**	**(473)**	**2,451**	**(849)**	**–**	**1,602**
2016						
Derivatives	166	–	166	(157)	–	9
Foreign currency forward contracts	1,871	(462)	1,409	(1,368)	–	41
Financial liabilities						
2017						
Derivatives	**6**	**–**	**6**	**(6)**	**–**	**–**
Foreign currency forward contracts	**1,631**	**(473)**	**1,158**	**(849)**	**(309)**	**–**
2016						
Derivatives	634	–	634	(157)	(94)	383
Foreign currency forward contracts	2,989	(462)	2,527	(1,368)	(390)	769

1. **Shows the impact of arrangements between the Company and the relevant counterparty on financial instruments that provide a right to set-off that becomes enforceable and affects settlement of individual financial assets and liabilities only following a specified event of default or in other circumstances not expected to arise in the normal course of business. These arrangements are not set-off in the Statement of Financial Position, as they are not currently enforceable.**

Note 19. Investment Manager

The Investment Manager, Platinum Investment Management Limited receives a monthly management fee for investment management services provided in accordance with the Investment Management Agreement. This Agreement provides for a management fee payable monthly and calculated at 1.1% per annum of the adjusted portfolio value (which includes cash and deposits).

The Agreement also provides a performance fee at 15%, at 30 June, of the amount which the portfolio's annual performance exceeds the return achieved by the Morgan Stanley Capital International All Country World Net Index (MSCI). Where the portfolio's annual return is less than the MSCI, the amount of the underperformance is aggregated, carried forward and deducted from the annual performance in the subsequent year before calculating any performance fee for that year. The aggregate of underperformance is carried forward until a performance fee becomes payable.

The 12 months pre-tax performance of the portfolio up to 30 June 2017, was 20.27% and the corresponding MSCI return was 15.31%. This represents an outperformance of 4.96% against the MSCI. However, once the prior period aggregate underperformance of 15.21% is also included, a performance fee has not been accrued. The total aggregate underperformance of 10.25% will need to be made up before a performance fee will be paid.

Total fees paid and payable for the year ended 30 June 2017 are shown below:

	2017 $'000	2016 $'000
Management fees	**4,253**	4,845

The management fees are lower in 2017 relative to 2016, because the higher management fee rate of 1.5% per annum applied for the first 6 months of the comparative period.

In the event of termination, Platinum Investment Management Limited will be paid a 1.1% per annum lump sum termination fee payable by the Company equal to the management fee rate of 1.1% per annum in respect of the period from the first business day of the month in which termination is effective to the date which is the first anniversary of that date. Additionally, a performance fee is payable for the period from the last calculation of the performance fee (as described above) to the date of termination.

Notes to the Financial Statements

30 June 2017

Note 19. Investment Manager – continued

A summary of the salient provisions of the Investment Management Agreement ("Agreement") is contained below:

(a) The terms of the Agreement require Platinum Investment Management Limited to:

(i) invest and manage the Portfolio in accordance with the Agreement;

(ii) confer with the Board of the Company at regular intervals in respect of the investment and management of the Portfolio;

(iii) exercise all due diligence and vigilance in carrying out its functions, powers and duties under the Agreement; and

(iv) promptly notify the Board of any instructions given to it by the Company which have not been complied with.

(b) Each party is to provide three months' notice to terminate the Agreement. The Company may immediately terminate the Agreement where Platinum Investment Management Limited:

(i) becomes subject to a receiver, receiver and manager, administrative receiver or similar person;

(ii) goes into liquidation;

(iii) ceases to carry on business in relation to its activities as an Investment Manager;

(iv) breaches a material provision of the Agreement, or fails to observe or perform any representation, warranty or undertaking given by Platinum Investment Management Limited under the Agreement; or

(v) sells or transfers or makes any agreement for the sale or transfer of the main business and undertaking of Platinum Investment Management Limited or beneficial interest therein, other than to a related body corporate for purposes of corporate reconstruction on terms previously approved in writing by the Company.

The Agreement was entered into to (a) codify changes made to the ASX Listing Rules and (b) codify the range of services provided by Platinum Investment Management Limited to the Company.

Note 20. Remuneration of auditors

During the financial year, the following fees were paid or payable for services provided by PricewaterhouseCoopers, the auditor of the Company:

	2017 $	2016 $
Audit services relating to the financial statements		
Audit and review of the financial statements	**83,000**	105,000
Other services		
Taxation services	**4,402**	37,301
Analytical and assurance services – agreed upon procedures for the new performance fee structure calculation* and fee modelling*	**–**	19,800
	87,402	162,101

*** PricewaterhouseCoopers were engaged by Directors, during the 2016 financial year, to conduct fee modelling analysis in relation to the management and performance fees payable, when comparing the old fee structure (effective up to 31 December 2015) to the proposed new fee structure (effective on and from 1 January 2016), and to undertake agreed upon procedures to assist the Directors in their review of the performance fee carried forward underperformance amount.**

Note 21. Key management personnel disclosures

Key Management Personnel

Details of remuneration paid to the Non-Executive Directors are outlined in the Statement of Profit or Loss and other Comprehensive Income and in the Remuneration Report and in aggregate terms was $186,150 (2016: $186,150).

Interests of Directors in shares

The relevant interest in ordinary shares of the Company that each Director held at balance date was:

	OPENING BALANCE	ACQUISITIONS	DISPOSALS	CLOSING BALANCE
Bruce Coleman	240,000	9,972	–	249,972
Richard Morath	32,400	9,972	–	42,372
Jim Clegg	20,000	39,972	–	59,972

Notes to the Financial Statements

30 June 2017

Note 22. Related party transactions

Management Fees

Disclosures relating to management fees paid and payable to the related party, Platinum Investment Management Limited are set out in Note 19.

Administration fees

Under the Administrative Services Agreement, Platinum Investment Management Limited provides various administrative services to the Company. These include accountancy, secretarial, performance analytics, taxation, compliance and risk monitoring services.

The services provided extend to liaison with the share registry to ensure that accurate share records are maintained and services are provided to shareholders in a timely and efficient manner.

In consideration for providing these services, Platinum Investment Management Limited received a payment of $1 from the Company.

Key management personnel

Disclosures relating to key management personnel are set out in Note 21 and the Remuneration Report.

Loans to/from related parties

There were no loans to or from related parties at the current and previous reporting date.

Note 23. Contingent Assets, Liabilities and Commitments to Capital Expenditure

No contingent assets or liabilities exist at 30 June 2017 and 30 June 2016. The Company has no commitments for uncalled share capital on investments.

Note 24. Events after the reporting period

Apart from the dividend declared as disclosed in Note 12, no other matter or circumstance has arisen since 30 June 2017 that has significantly affected, or may significantly affect the Company's operations, the results of those operations, or the Company's state of affairs in future financial years.

Note 25. The Company

The Company, Platinum Capital Limited, is a company limited by shares, incorporated and domiciled in New South Wales. Its current registered office and principal place of business is:
Level 8, 7 Macquarie Place
Sydney NSW 2000

A description of the nature of the Company's operations and its principal activities is included in the Directors' Report.

Directors' Declaration

30 June 2017

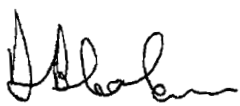
In the Directors' opinion:

- the attached financial statements and notes comply with the *Corporations Act 2001*, the Accounting Standards, the *Corporations Regulations 2001* and other mandatory professional reporting requirements;
- the attached financial statements and notes comply with International Financial Reporting Standards as issued by the International Accounting Standards Board as described in Note 1 to the financial statements;
- the attached financial statements and notes give a true and fair view of the Company's financial position as at 30 June 2017 and of its performance for the financial year ended on that date; and
- there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

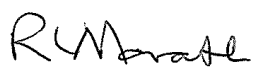
The Directors have been given the declarations required by section 295A of the *Corporations Act 2001*.

Signed in accordance with a resolution of Directors made pursuant to section 295(5)(a) of the *Corporations Act 2001*.

On behalf of the Directors



Bruce Coleman
Chairman



Richard Morath
Director

17 August 2017
Sydney

Independent Auditor's Report

To the members of Platinum Capital Limited

Report on the audit of the financial report

Our opinion

In our opinion:

The accompanying financial report of Platinum Capital Limited (the Company) is in accordance with the *Corporations Act 2001*, including:

(a) giving a true and fair view of the Company's financial position as at 30 June 2017 and of its financial performance for the year then ended

(b) complying with Australian Accounting Standards and the *Corporations Regulations 2001*.

What we have audited

The financial report comprises:

- the statement of financial position as at 30 June 2017
- the statement of changes in equity for the year then ended
- the statement of cash flows for the year then ended
- the statement of profit or loss and other comprehensive income for the year then ended
- the notes to the financial statements, which include a summary of significant accounting policies
- the Directors' declaration.

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Basis for opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial report* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the Company in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

Our audit approach

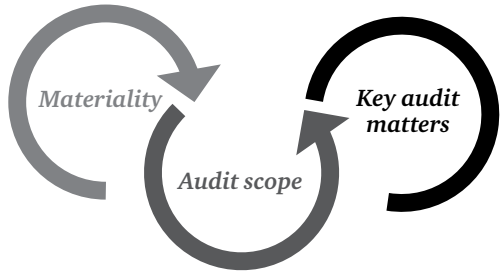
An audit is designed to provide reasonable assurance about whether the financial report is free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial report.

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial report as a whole, taking into account the geographic and management structure of the Company, its accounting processes and controls and the industry in which it operates.

Platinum Capital Limited is a listed investment company on the ASX. The Company primarily makes investments in international equities.

Independent Auditor's Report

To the members of Platinum Capital Limited



MATERIALITY	AUDIT SCOPE	KEY AUDIT MATTERS
– For the purpose of our audit we used overall materiality of $2.2m, which represents approximately 0.50% of net assets of the Company – We applied this threshold, together with qualitative considerations, to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial report as a whole. – We chose net assets as the benchmark because, in our view, it is the most significant area of interest to the investors in the Company and is a generally accepted benchmark for listed investment companies. – We selected 0.50% based on our professional judgement, noting that it is within the range of commonly acceptable net asset related thresholds.	– Our audit focused on where the Company made subjective judgements; for example, significant accounting estimates involving assumptions and inherently uncertain future events. – Our audit approach reflects the nature of the investments held by the Company and the consideration of the work undertaken by third party service providers. The key service providers relevant to our audit are Platinum Investment Management Limited (Investment Manager and Administrator), who manages the Company's investments and maintains the accounting records of the Company and State Street Australia Limited (the Custodian), who provides custodian services for the investments.	– Amongst other relevant topics, we communicated the following key audit matter to the Audit, Risk and Compliance Committee: • Investments in financial assets and financial liabilities. – This is further described in the *Key audit matters* section of our report.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial report for the current period. The key audit matters were addressed in the context of our audit of the financial report as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. Further, any commentary on the outcomes of a particular audit procedure is made in that context.

KEY AUDIT MATTER	HOW OUR AUDIT ADDRESSED THE KEY AUDIT MATTER
Investments in financial assets and financial liabilities *Refer to note 1 (Summary of significant accounting policies) and note 4 and 5 (financial assets and liabilities)* At 30 June 2017, the investments in financial assets and financial liabilities of approximately $415,952k and $1,164k, respectively, comprised of investments in active markets and investments in inactive or unquoted markets. The valuation and existence of the financial assets and liabilities was a key audit matter because: – investments in financial assets and financial liabilities represent the principal element of the Statement of Financial Position accounting for approximately 93% of net assets. – some investments are traded in inactive or unquoted markets, meaning the Company need to make judgements to estimate their fair value as outlined in note 17 to the financial statements. Changes to the estimates, assumptions and or/judgements can result in a material change to the valuation.	We assessed the independent auditor's reports over the Custodian's controls over the valuation and existence of investments. We assessed the reports by considering the other auditor's independence, competency and results of procedures. The assurance reports were unqualified although some individual controls were found to not be operating effectively. We assessed the nature and number of exceptions and evaluated whether there were compensating controls in the reports. We also performed the following procedures, amongst others: ***Valuation procedures*** *Investments in active markets* – We obtained price data from third party price vendors and compared it to the prices used by the Company to value the investments. *Participatory notes (approximately 3% of net assets)* – For all participatory notes held, we obtained price data from a third party price vendor for the underlying equity security of the participatory note in local currency. We translated the price into AUD and compared it to the participatory note price used to value the investments by the Company.

Independent Auditor's Report

To the members of Platinum Capital Limited

KEY AUDIT MATTER	HOW OUR AUDIT ADDRESSED THE KEY AUDIT MATTER
	Equity swap contracts (less than 1% of net assets) – Given the fair value of equity swap contracts represents less than 1% of net assets, for a sample of one equity swap contract, we obtained price input data from a third party price vendor and calculated the market value with reference to the relevant term sheet. We compared our calculated valuation to the valuation used to value the investment by the Company. The aggregate difference between our valuation testing and the Company's valuation of investments was not material. ***Existence procedures*** – For investments held in custody at the Custodian, we obtained an independent confirmation from the custodian of the investment holdings. We also tested the period end reconciliation of holdings per the custodian and holdings per the accounting records. We tested a sample of the largest reconciling items by obtaining adequate supporting evidence to explain the differences. – For investments not held in custody at the third party Custodian, we independently confirmed the investment position with the counterparty and compared the confirmed balance to the accounting records. The aggregate balance of all differences identified in our existence procedures was not material.

Other information
The directors are responsible for the other information. The other information included in the Company's annual report for the year ended 30 June 2017 comprises the Shareholder Information, Investment Structure, Objectives and Approach and Directors' Report (but does not include the financial report and our auditor's report thereon), which we obtained prior to the date of this auditor's report. The other information also includes the Chairman's Report, which is expected to be made available to us after that date.

Our opinion on the financial report does not cover the other information and we do not and will not express an opinion or any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

When we read the other information not yet received as identified above, if we conclude that there is a material misstatement therein, we are required to communicate the matter to the directors and use our professional judgement to determine the appropriate action to take.

Responsibilities of the directors for the financial report
The directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Corporations Act 2001* and for such internal control as the directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the directors are responsible for assessing the ability of the Company to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Independent Auditor's Report

To the members of Platinum Capital Limited

Auditor's responsibilities for the audit of the financial report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: www.auasb.gov.au/auditors_responsibilities/ar2.pdf. This description forms part of our auditor's report.

Report on the remuneration report

Our opinion on the remuneration report

We have audited the remuneration report included in pages 21 to 24 of the directors' report for the year ended 30 June 2017.

In our opinion, the remuneration report of Platinum Capital Limited for the year ended 30 June 2017 complies with section 300A of the *Corporations Act 2001*.

Responsibilities

The directors of the Company are responsible for the preparation and presentation of the remuneration report in accordance with section 300A of the *Corporations Act 2001*. Our responsibility is to express an opinion on the remuneration report, based on our audit conducted in accordance with Australian Auditing Standards.

PricewaterhouseCoopers

Joe Sheeran
Partner

Sydney, 17 August 2017

Visions of an Autonomous Future

Designed and produced by
3C Creative Agency, 3c.com.au

Article by
Curtis Cifuentes, Investment Analyst,
Platinum Asset Management

Artwork by
Andrew McGranahan
ajmcg.com

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In this research article, Curtis Cifuentes, one of Platinum's long-time investment analysts for the technology sector, explores the key technological developments that have contributed to the gestation of self-driving cars, the possible direct and indirect impacts autonomous vehicles (AVs) may have on a range of industries as well as some of the broader societal implications they may bring about.

Preface

The history of land transportation – and, indeed, of transportation more generally – was shaped by a small number of gigantic leaps.

Early on, humans learned to harness the powers of animals stronger than ourselves, but the first real leap came with the invention of wheels and the ability to augment biological force with mechanical force. Then came the steam engine, and later the internal combustion engine. This ability to turn thermal and chemical energy into mechanical power meant that movement and transport no longer required our physical input. Transportation did, however, still require human cognitive input. That is now about to change, as we edge ever closer to taking yet another monumental leap with the advent of self-driving or "autonomous" vehicles (AVs).

Needless to say, we, at Platinum, have been following the development of self-driving technology attentively not only for its sheer intellectual delight, but more importantly, for its multifarious implications for the world of business and investing. What makes the dawn of AVs both fascinating and challenging to analyse is that it represents the simultaneous convergence of multiple streams of technological progress and consumer trends. The rise of electric vehicles (EVs), enabled by improving battery technology and falling battery prices, is coinciding with advancements in machine learning and sensing equipment (e.g. LIDAR). Add to the mix the growing popularity of ride-sharing services like Uber, and one can see a powerful storm of disruption gathering.

I am pleased to share with you some of our thinking on this exciting, yet complex, topic in *Visions of an Autonomous Future*. In this research article, Curtis Cifuentes, one of Platinum's long-time investment analysts for the technology sector, explores the key technological developments that have contributed to the gestation of self-driving cars, the possible direct and indirect impacts AVs may have on a range of industries as well as some of the broader societal implications they may bring about.

The word I wish to emphasise here is "may". Hard as one might try to envision the future, the truth is that it is difficult, if not impossible, to foresee with any degree of certainty how technology with such wide-ranging, far-reaching impact will reshape industry and society. Most human beings are intuitively path-dependent and many resort to extrapolation when investing in the stock market, which can lead to missed opportunities as well as deadly traps.

There is currently no shortage of voices predicting the imminent demise of incumbent automakers or prophesising a new era of dominance by Silicon Valley.

However, as Curtis explains in his article, the shifting landscape of the auto and tech industries makes this a far trickier question.

Even more difficult to gauge are the potential second-order and third-order effects of self-driving technology, such as how it might affect urban planning and real estate. A not-so-distant analogy is the extent to which the ubiquity of cameras on mobile phones has changed human interactions and the number of new products and business models it has given rise to. One might see MMS as a logical extension of SMS, but how many foresaw the popularity of image-sharing platforms like Instagram? And what about Snapchat, on which some teenagers, I'm told, conduct entire conversations by visual means? The ability to point-and-shoot with smartphones also facilitated the spread of QR codes and their attendant identification and payment functions, enriched mapping and GPS technology, and is now helping augmented reality move forward (how far did you go on PokemonGo?). As Carl Sagan said, "It was easy to predict mass car ownership, but hard to predict Walmart".

We do not have all the answers. But we hope we are asking the right questions and that this article can provide you with a few pointers around the investment theme of autonomous vehicles.

Kerr Neilson
Managing Director
August 2017

Visions of an Autonomous Future

by Curtis Cifuentes
Investment Analyst, Platinum Asset Management

The speed and efficiency with which we transport people and goods is a fundamental driver of social and economic progress as well as individual well-being.

Empires were built on the ability to control trade routes; fortunes were made during the railway boom of the 19th century; railway networks have been important nation-building exercises including Japan with its bullet trains and, more recently, by China with its high speed rail boom this century; cities and civilisation today have been unmistakably shaped by the automobile, from the rise (and fall) of Detroit to nationwide highways and even urban sprawl.

So it's of little surprise that the tangible promise of self-driving cars, or autonomous vehicles, has garnered such public attention, from starry-eyed commuters enamoured by the hope of being freed from the drudgery of the daily commute to ambitious Silicon Valley entrepreneurs, motivated by the prospect of fortunes comparable to those of the railway barons of a century ago.

As investors, we see exciting potential for new business models, as well as risks to incumbent ones, in what could be characterised as the information technology revolution disrupting the transportation industry.

This article is loosely structured in four sections, each seeking to answer one of the core questions that form the framework around Platinum's thinking on the changes autonomous vehicles may bring.

PART 1

Why is autonomous technology both interesting and important?

We think that autonomous driving technology has the potential to be more than just an expensive up-sell opportunity at car dealers.

It will reduce death and injury, change the insurance industry and eventually, through synergies with ride-sharing services like Uber and Lyft, change the nature of personal transport.

PART 2

Why is this happening now?

We will delve into some of the exciting technological innovations that are bringing self-driving cars from the realm of science fiction to reality, or, in other words, what gives us confidence that they aren't just a pipe-dream. Dare we suggest that an autonomous fleet of cars is closer than most think.

PART 3

Impacts on industry.

Assuming self-driving cars do become reality, how might the business landscape change? While many believe that incumbents are at risk of being disrupted by new entrants, we think the outcome might be more nuanced and there may be more turns and twists along the way.

If, as consumers, we shift from being buyers and owners of cars to become customers of services provided by the owners of large autonomous fleets, it might be a pyrrhic victory for any surviving incumbent. If the airline industry is any guide, the fleet might be a fraction of its current size, but utilised much more efficiently.

PART 4

What might it mean for society and civilisation?

No melodramatic exaggeration is needed to suggest that, if autonomous fleets become widespread, there might be huge changes to the jobs we do and even the very fabric of the cities we live in.

There will be unpredictable second and third order effects that will surprise everyone.

PART 1

Why is autonomous technology both interesting and important?

From a high level, any sign of a significant change in the dynamics of transport is worthy of investigation, even if some aspects of autonomous driving are showing signs of hype.

To illustrate one facet of the potential social and economic impact, every year around 30,000 people die in car accidents in the United States alone; globally the estimate is 1.2 million people. When including car-related injuries the number rises to 3.9 million (US only, 2010) and the US Department of Transport estimates the economic impact of these crashes to be US$242 billion or 1.6% of GDP.[1]

Studies show that humans are responsible, through error, alcohol or inattention, for 94% of accidents – it's rare that a mechanical failure or the weather is a cause of crash. Also, to dispel any misconception about the variability of driver skill, men behind the wheel are 50% more likely to kill themselves than women.[2] (And that's adjusting for distance driven – 2.1 fatalities/100m miles driven vs. 1.4/100m miles. On fatalities alone, it's 2.5:1).

While the reduction in loss of life and property alone makes the development of autonomous vehicles a worthwhile endeavour, there are other benefits, such as higher productivity due to less road congestion and better use of commute time as drivers are freed up from having to concentrate on following that white line.

In the US, the average one-way commute was 26 minutes in 2014. Assuming a workforce of 140 million, that works out to 30 billion hours – or 3.5 million collective years – spent every year commuting. The United States is unique in its car-centric culture too – the 2013 US census found that 86% of people travelled to work in a private car (and 76% drove alone).[3]

One University of Texas study, which put the saving of unproductive commute time at a much more conservative 2.7 billion hours, one-tenth that of the previous estimate, nevertheless estimated the total savings from productivity, fuel savings and collision costs to be US$1.2 trillion, or 7% of GDP.[4] At the very minimum, as accidents and incidents on the road account for one-quarter of road congestion, according to a Federal Highway Administration study,[5] it's not unreasonable to assume that even if we all chose to sleep in our cars on our way to work, rather than do something more productive, commute times would be shorter.

An important reason for our excitement around autonomy comes from its interplay with the rise in on-demand services like Uber and Lyft. At first glance, replacing a quarter of a billion human-driven cars with self-driven ones may not be quite as disruptive, especially if nothing else changes. It's hard to imagine significant reduction in road congestion, for example, if everyone is still travelling alone in their autonomous car. But if the kind of per-trip or per-kilometre cost savings we envision from an autonomous fleet of electric vehicles comes to pass, for many people car ownership will no longer be a rational choice.

This will take cars off the road, the ones kept on the roads will be better utilised, and everyone will benefit from much lower cost of transport.

To draw an analogy with a change experienced in the telecommunications industry, when voice calls just became another stream of bits on a wide data pipe rather than a dedicated line, it became untenable for carriers to charge dollars per minute for international calls as a FaceTime call could be made to anywhere in the world almost for free.

Autonomy makes getting from A to B safer, faster and a step-change lower in cost, while also making life-changing mobility accessible to the aged or physically or visually impaired.

There are also potential negatives, some of which we shall delve into later in this article, and they range from the obvious impact on employment in jobs that involve driving, such as taxis and truck drivers, through to impacts on the insurance industry, oil demand (we believe electric drive trains are synergistic with advances in autonomous technology) and possibly even for the car industry as a whole if the fleet size shrinks due to a shift away from individual ownership to ride-sharing.

The current wave of progress in autonomous technology is taking us into a period of upheaval and disruption, leading to the emergence of new business models as well as the extinction of old ones, and in the process presenting us with invaluable investment opportunities.

To put the broad market size into perspective, the smartphone market, in which the world's largest and most profitable company operates, is a US$405 billion revenue market (roughly 1.5 billion phones x US$270 in average selling price) [6].

The car market is an estimated US$1.2 trillion market (about 100 million light vehicles are sold globally every year), four times the size of the smartphone market.

When one includes peripheral markets such as component suppliers, or including services revenue such as that from ride-sharing businesses, the revenue pool that is potentially ripe for disruption expands significantly.

PART 2

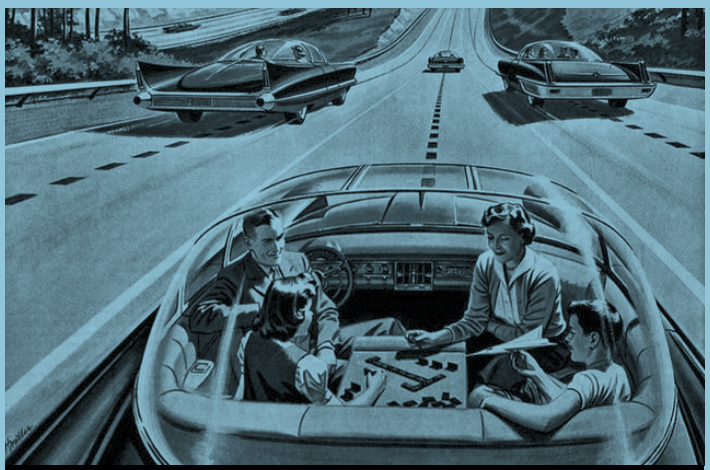
Why is this happening now?

There have been premature expectations that fully autonomous vehicles would soon be in wide use almost since the start of the car industry, so scepticism is well justified.

Obviously, some of the optimism is wishful thinking – the bone-crushing tedium of long hours stuck in traffic is lost on few and let's not forget that the horse-drawn carriages from which we supposedly upgraded from probably would have gotten you home safely if you fell asleep at the wheel (or, rather, the reins).

Our optimism today stems from two key aspects of technological innovation – one, the electric vehicle (EV), and two, machine learning, or more specifically, advances in deep learning algorithms.

The most incredulous aspect of this image is probably the assumption that a family would play board games together. They might have imagined self-driving cars 60 years ago, but smartphones and Facebook were clearly beyond their imagination.



Advertorial published by Central Power and Light between 1956 and 1957 with caption ELECTRICITY MAY BE THE DRIVER. One day your car may speed along an electric super-highway, its speed and steering automatically controlled by electronic devices embedded in the road. Highways will be made safe – by electricity! No traffic jams ... no collisions ... no driver fatigue.[7]

The EV is not a prerequisite to autonomous vehicles, but the inherent simplicity of an EV (fewer moving parts, lower maintenance) is lowering the barrier to entry for new entrants (Tesla and BYD are two well-known examples) and we think that the influx of ambitious new companies with fewer legacy obligations sets the stage for accelerated development and innovation.

The horseless carriage

It may seem hard to believe today that when the first cars started appearing on the roads, there was a huge backlash from society, with predictions ranging from obesity epidemics (arguably a fairly accurate one) through to widespread insanity (it was feared that the human brain couldn't handle travelling at speed).

These early automobiles were coined "devil wagons" and it wasn't uncommon for drivers to have rocks or the insult "Get a horse!" hurled at them as they drove past.

In an 1896 submission to the British Association for the Advancement of Science a scientist claimed that cars required more driver focus, "...we should not overlook the fact that the driving of the horseless carriage calls for a larger amount of attention, if not skill, on the part of the driver, than is necessary in regard to horse-drawn conveyances, for he has not the advantage of the intelligence of the horse in shaping his path, and it is consequently incumbent upon him to be ever watchful of the course his vehicle is taking."[8]

It's only taken us 100 years to get back to the level of autonomy that we gave up!

Confidence in EVs

Another reason for our excitement around autonomy stems from the concurrent and synergistic shift from combustion engines to electric drive trains. The reason we think cars are about to make this change is simply because the EV is technologically superior and tantalisingly close to being cost competitive.

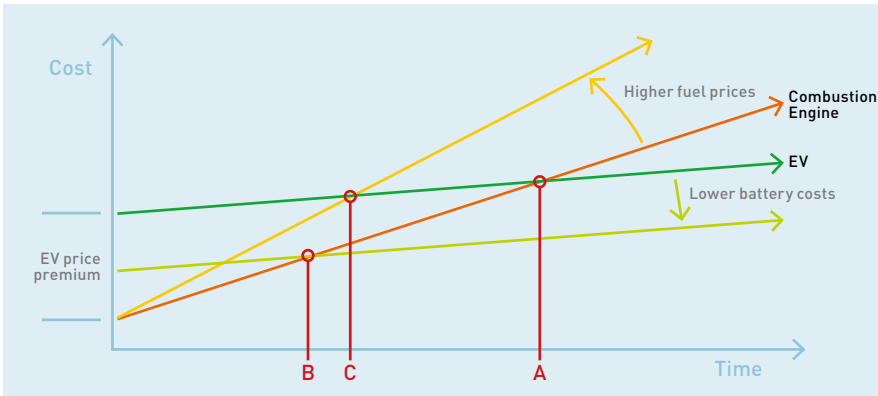
While the cost of batteries is currently a significant hurdle (adding anywhere between US$8,000 and US$30,000 to the cost of a vehicle, depending on size), if there is any immutable rule in technology, it is that steady innovation brings down the cost of components over time. Lithium-ion battery packs have seen per kWh cost fall from US$1,000 to US$250 between 2010 and 2016.[9] Batteries are on an experience curve not unlike that seen in solar cells, barring any disruption in the supply of raw materials. Apart from the obvious lithium, lithium-ion cells contain significant amounts of cobalt, nickel and aluminium, and electric motors contain a lot of copper.

From a technological perspective, EVs are quieter, cleaner and more efficient, with 95% of the energy in the batteries making it to the wheels, compared to just 20–40% for internal combustion engines.

When looking at the total cost of ownership, that is, including the cost of fuel and maintenance, EVs are arguably already competitive with combustion engine cars today.

It is for this reason that we think it is compelling for fleet operators such as Uber and other ride-sharing services to adopt EVs (and, concurrently, autonomous vehicles).

It might still be hard for most individual purchasers (and the finance companies lending to them) to get over the sticker price, but much less so for more rational commercial operators.



Source: Curtis Cifuentes

The chart above illustrates our conceptual thinking about the structural cost advantages of EVs. The y-axis is the total cost of ownership of the car. Combustion engine cars have a lower sticker price (today) and start at a lower point on the axis, but because of fuel efficiency and maintenance costs, the running costs are higher, hence the steeper slope. Changes in fuel prices change the slope. EVs are more expensive up front but tend to be much cheaper to run.

As steady improvements in production technology lowers the cost of batteries, the time it takes for an EV to 'beat' a traditional car moves from point A to point B, for example. Likewise, if oil prices rise, the crossover point moves from A to C. Conversely, falling oil prices, as we've seen in recent years, lowers the slope and lengthening the payback for EVs. One could argue that the recent resurgence of truck and SUV popularity in the US and disappointingly low EV share has caused in part by lower oil prices.

That crossover point depends on many factors, including the price of the vehicle, energy prices (both gasoline and electricity), annual driving distances and so on.

But to give a rough example, let's compare the Bolt EV to a Golf. Assuming $0.10/kWh for electricity (US average retail price) and $0.60/L gasoline prices (again, US average) the cost per 100km of driving is $1.6 for the Chevy Bolt and $3.9 for a Golf. That's 2.4x higher for the Golf.[10] Similarly, in a report published by UBS, they found that annual service and maintenance requirements were also lower, at $255 for the Bolt and $610 for the Golf. Illustrating this difference is the maintenance schedule – apart from tyre rotation the Bolt requires no servicing for five years or 240,000 km, compared to an oil change every ten thousand kilometres for the Golf.

Flipping the question from 'why now?' to 'why hasn't it happened sooner?', and one can see more clearly what a monumental challenge autonomous driving is.

Contrast it with the experience of flying, where the first rudimentary autopilots were developed in the 1930s, less than 20 years after the first commercial flights became available, and today advanced autopilot systems have relegated human pilots to mostly monitoring roles. (An industry joke thus describes the cockpit of the future: it will contain one human and a dog – the human to observe the instruments and the dog to bite the human's hand should he try to touch anything.) Similar shifts to autonomy have been observed in mining and agriculture. But why not on our urban roads?

Even though driving today is 98% following the car in front and staying between the lines, it's the other 2% that has hampered autonomous systems, until recently.

Apart from a few motorways where the type of traffic is restricted, most roads are messy, complex environments. Drivers must contend with poor or non-existent marking, pedestrians staring at their phones, cyclists that consider themselves above road rules, other inattentive drivers and the occasional animal (probably that dog on his way home from the airport). While attempts to automate the task of driving were made on many occasions, the traditional rule-based programming model couldn't scale to the almost infinite variations of situations a car might encounter on the streets, such as that Google encountered once with their autonomous trials: a woman on a wheelchair chasing a duck. The first sign that we might be breaking through this impasse has come from advances made in machine learning and in deep learning specifically.

While beyond the scope of this paper (for those interested, we urge you to read Constance Zhang's three-part article *Infusing Machines with Intelligence* on our website), advances in deep learning have resulted in a jump in the accuracy of image recognition algorithms to the point where they now exceed humans' accuracy level.

Accurately understanding the surrounding world is the first step to building truly reliable autonomous driving systems – a self-driving car that only recognises pedestrians on the road 80% of the time is downright terrifying. The advances here are being driven by a diverse range of companies that are not traditional auto makers, such as Baidu and Google, which highlights the reason why Silicon Valley is suddenly interested in this space.

As testament to this interest, it was during the preparation of this paper that Intel announced the acquisition of Israeli autonomous driving company Mobileye for US$15 billion, which is 30x Mobileye's 2017 revenues and 60x its profits – certainly a generous price, but potentially justified if autonomy is as transformative as we think it might be.[11]

Diverging strategies

Much like the first attempts to ascend Everest tried various routes, there are two different philosophical paths to full autonomy. The first, favoured by incumbent carmakers, is the incremental approach: cars have steadily added safety features through time, such as adaptive cruise control and, more recently, emergency brake assist and lane departure warnings.

The belief is that, by steadily increasing features and reliability, we will eventually achieve full autonomy. It's a lower risk approach that leverages existing supply chains and meshes well with the business models of the carmakers.

The second approach, favoured by newcomers such as Google and Baidu, is the all-or-nothing gambit – to the point where Google's more recent prototypes do away with the steering wheel entirely. Their view is that, if passengers are to truly trust autonomous vehicles, they have to be reliable 100% of the time. The challenge for the path taken by the likes of Google, however, is that it's a binary outcome – succeed and it's a winning lottery ticket; fail and you don't have a business.

The paradox of automation

A one-leap change directly to full autonomy versus the seemingly less risky incremental approach raise some very difficult issues that arise in the transition period where the car is in control most of the time, but humans might be called upon at any moment to take control when the system decides it can no longer accurately assess the situation.

The issue is not new and NASA has been researching the impact of autopilots on pilot skills for more than 50 years.

The 'paradox of automation', simply put, is that the better the automation, the more critical the human decisions become in the rare times they have to take over, and yet, as humans rely more and more on automated systems, our manual skills atrophy and we become less and less qualified to take control in those increasingly rare situations when we are required to.

Paradox of automation in practice – Air France Flight 447

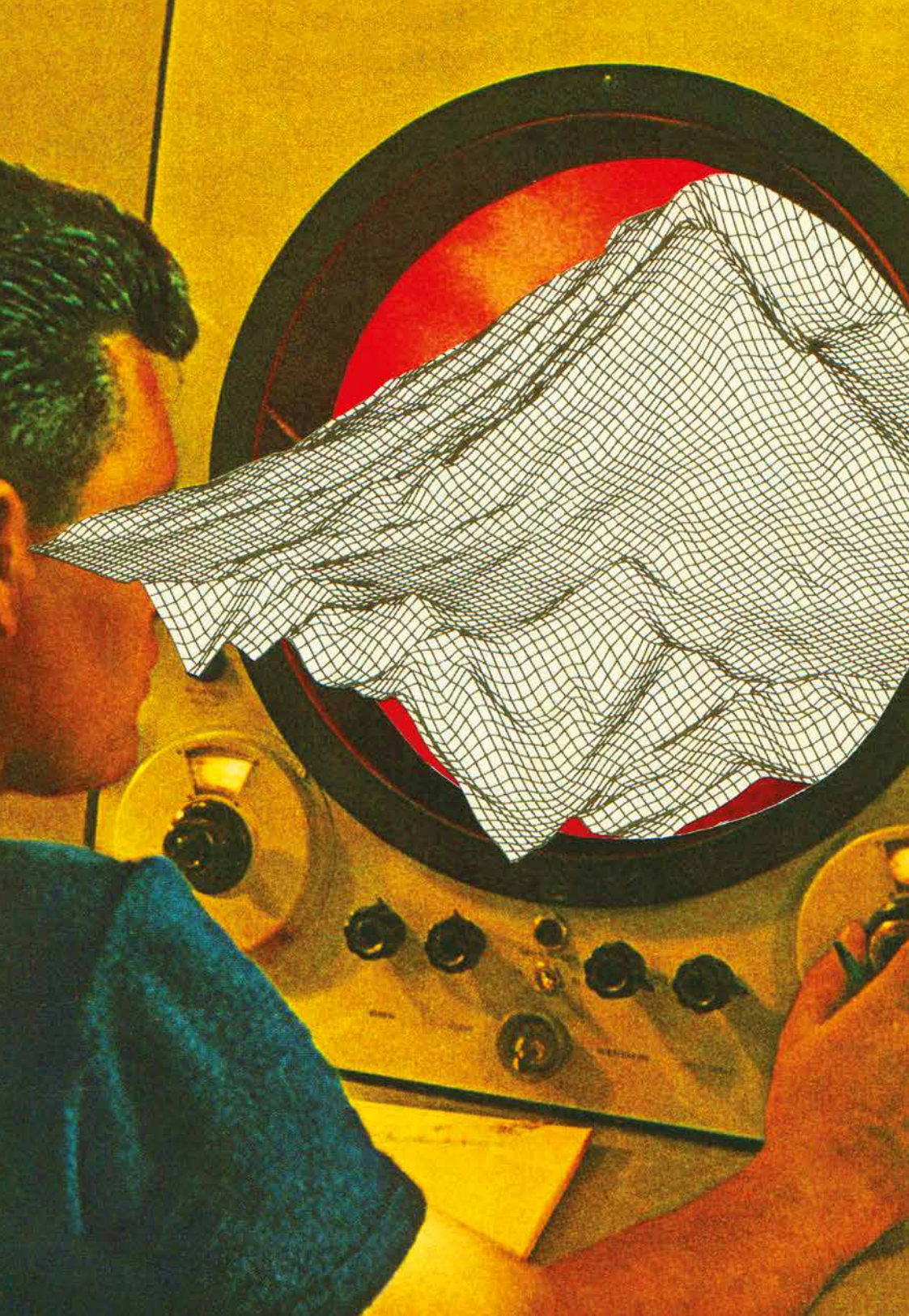
A sobering 2014 article featured in Vanity Fair[12] goes into terrifying detail on the chain of human errors that led to the crashing of an Airbus 330 into the Atlantic Ocean and the death of 228 people. While some might argue over the relative importance of the various factors that resulted in the crash, the article makes compelling arguments that reliance on automation contributed to the flight crew's inability to assess and correct the situation during the approximately three-minute window that they had after the autopilot disengaged, and the otherwise perfectly functioning plane crashed into the sea.

If three experienced pilots couldn't correctly diagnose what was going on in several minutes, what hope does a driver, who might be dozing or deeply immersed in a movie, have of analysing the situation and taking action within maybe as little as a few seconds?[13] Studies have also shown that in the transition period, where the car is controlling itself but the driver is still required to monitor the situation, boredom and inattentiveness quickly sets in, regardless of the driver's best intentions.

While the story of Air France Flight 447 is terrifying, automation has unambiguously contributed to the improvement in overall flying safety. The same is likely to hold true for cars, to the point where it's not unimaginable that in the not too distant future humans are likely to be banned from driving on public roads. For example, while there is some contention around what exactly was being measured, the NHSTA investigation into the death of Tesla driver Joshua Brown in 2016 found that the car's 'Autopilot' feature, which includes forward collision warning and emergency brake assist, reduced crash rates by 40%.

Each of the two approaches has its own appeal, and it may be too early to make a call on which will be successful. The contrast and contest are complicated by factors such as the incumbents investing in both strategies, of which General Motors is a good example. GM continues to expand incrementally the advanced driver-assistance system (ADAS) features in its current models while acquiring autonomous start-up Cruise as well as investing in ride-sharing company Lyft.

Similarly, it would appear that Google's plans for its subsidiary Waymo have over time evolved from building their own cars to potentially licensing the technology to carmakers – not dissimilar to the strategy of licensing Android to smartphone manufacturers. Having observed what Microsoft did to the PC market and how Google repeated that with the smartphone market, most carmakers are understandably wary about ceding that much control, and, by extension, valuable data, to a third party.



How do cars change?

Conceptually, the key differences between a 'dumb' car and an autonomous one can be grouped into three aspects: (1) sensing, or the range of sensors and cameras employed to see the world around it; (2) intelligence, or the software and hardware used to comprehend the sensory inputs and make decisions on how to respond; and (3) actuation, the collection of motors and actuators that turn those decisions into movement of the vehicle as well as other sensors that provide a feedback loop so that the car knows what it is doing.

Sensing

Vision is by far the most important sense when it comes to driving (we don't yet possess the olfactory senses of a dog to navigate with our noses) and therefore it's no surprise that most autonomous systems predominantly rely on cameras.

However, cameras are not completely reliable, especially in adverse weather or under sunlight glare. For this reason, many autonomous cars also include complimentary sensing systems, such as ultrasound, radar, and light detection and ranging (LIDAR).

More sensors, however, add complexity and cost, not just in the additional sensors themselves but also in the additional computing power required to process and make sense of the extra data.

Broadly referred to as 'sensor fusion', it's not a trivial task, and while it seems intuitive that having multiple cameras and sensors should result in safer, more reliable systems, early prototypes have struggled. As a simple example, imagine an urban street with cars parked along one side and a pedestrian walking between the parked cars possibly with the intention of crossing the street. The camera might be seeing a human, the radar might have only seen a car. How does the system decide a course of action if it cannot be certain what it's in fact looking at?

Mobileye and the success of simplicity

One of the most successful new entrants in the autonomous space is Mobileye, the Israeli company recently acquired by Intel for US$15 billion.

Many early ADAS attempts used two cameras on the assumption that, like human vision, stereoscopic vision would improve distance perception. But the processing systems struggled with the slightly different images from left and right cameras, resulting in overall lower accuracy with object recognition. So while being better in theory, in practice stereo camera systems were both more expensive and less reliable.

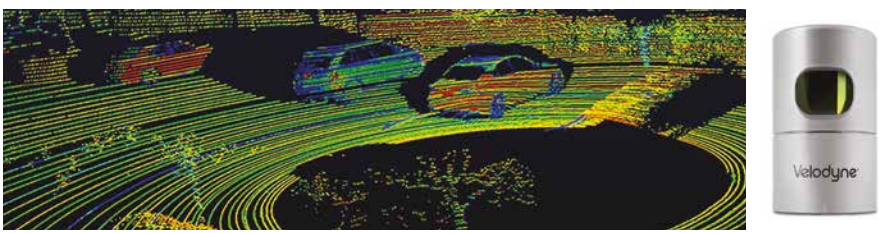
Mobileye was unique in that it delivered accurate recognition from a mono camera which estimated distance by the rate of change in image size from frame to frame. This simple yet reliable solution saw Mobileye win a majority of the early driver assistance contracts and its systems installed on an estimated 15 million cars to date. Mobileye's products today are far from fully autonomous, but the company has a roadmap to autonomy and arguably one of the most extensive – and growing – databases of road imagery and mapping information.

While the first commercially successful system amazingly did it with just a single camera, consensus seems to be coming to the view that full autonomy will require a combination of different sensing technologies to improve overall reliability.

Cameras do poorly in the dark or in foggy conditions (and lenses can get dirty easily); LIDAR doesn't work well in the rain; radar has poor resolution and can only see metal objects well; and ultrasound has poor range. Combined, however, they might be able to cover most road conditions.

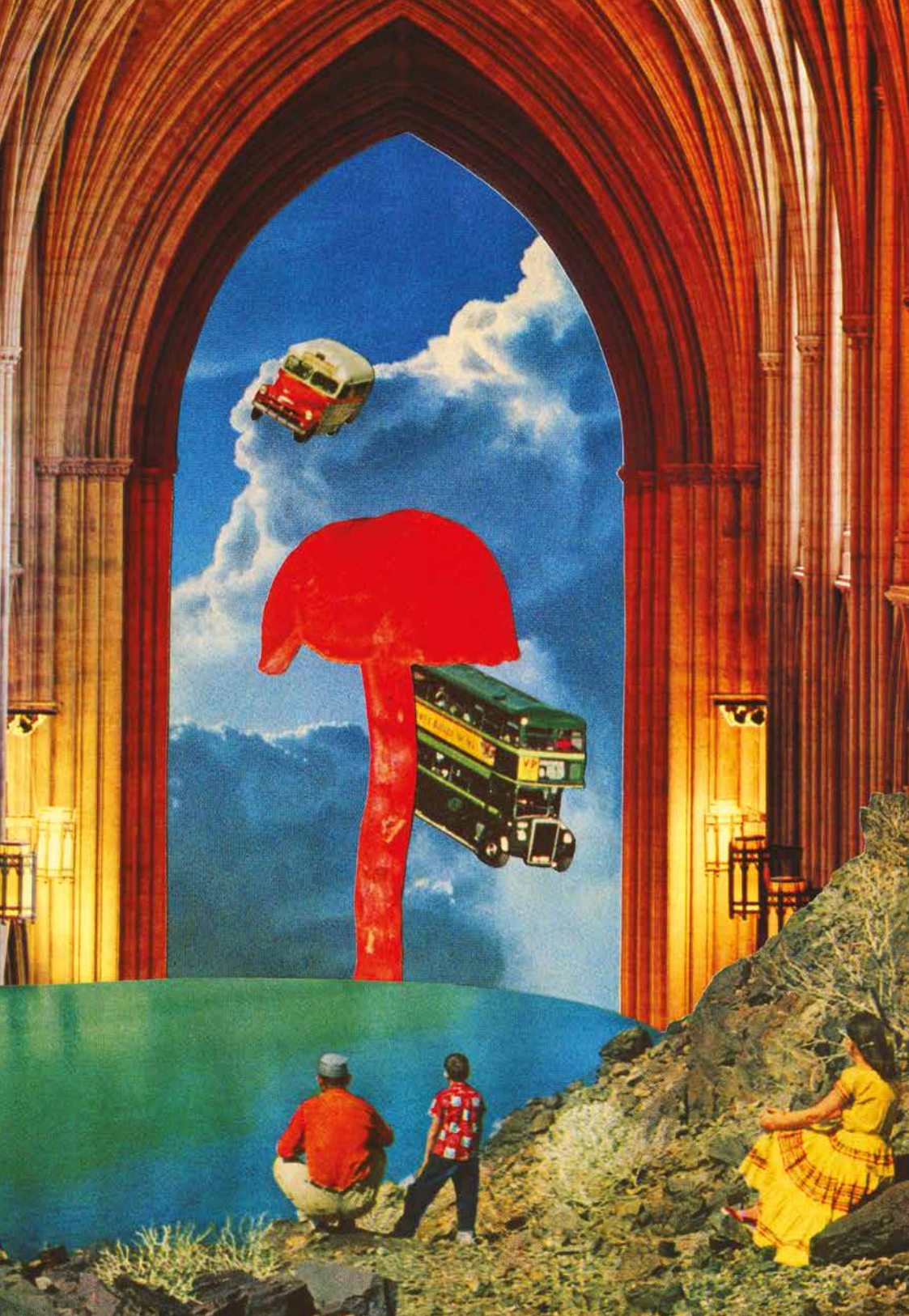
LIDAR

One of the more contentious sensing technologies, LIDAR, is a distance sensing technology similar to radar, except that, instead of measuring the time it takes radio waves to bounce off an object, it emits and measures the return times and wavelengths of laser light. The high point density of narrow beams of light enables LIDAR to map objects with much finer resolution than radar. Current LIDAR devices look like spinning cans of beans typically mounted on the top of autonomous cars. Leading devices can build a 3D map of millions of points every second with a range exceeding 100 metres.



Source: Velodyne, https://www.technologyreview.com/s/603885/autonomous-cars-lidar-sensors/

LIDAR provides unrivalled 3D mapping of the immediate environment around the car, but it comes at a significant cost. Devices sold by market leader Velodyne cost from several thousand dollars up to almost US$100,000,[14] depending on the specifications. They are also prone to damage, function poorly in bad weather, and are not particularly attractive in the way that they are conspicuously mounted on the top of vehicles.



There is an ongoing debate over whether autonomous cars will require LIDAR – Tesla has claimed in the past that automation will be achievable without LIDAR, whereas Google's efforts seem to position LIDAR as a pre-requisite.

In fact, there has been intense research by Google as well as others to bring down the cost and the size of these devices, which has led to the development of Google's own LIDAR. (LIDAR technology is at the centre of the brewing legal battle between Waymo (Google's subsidiary) and Uber, which stemmed from claims that a former employee stole Waymo's LIDAR designs, started a new company (Otto) which was then acquired by Uber.) There is also promising development happening in the field of solid-state LIDAR, which will do away with the moving parts prone to damage and be a fraction of the size and cost of current models.

Intelligence

Most of the intense development happening today surrounds the fusion and interpretation of the information gathered by the sensors, the subsequent path planning of the vehicle, and whether this requires pre-assembled maps in excruciating detail or whether these maps can be computed on the fly.

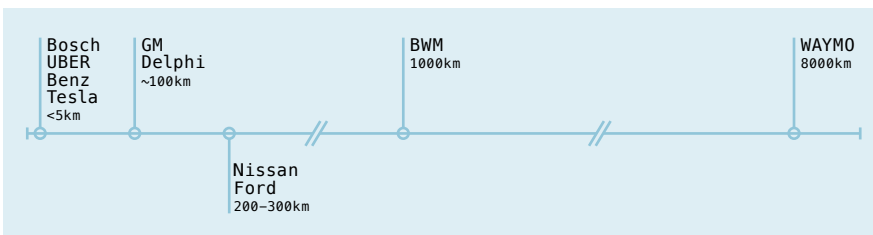
This battle is being played out on the streets of San Francisco and the Bay Area, where autonomous cars from Google, Uber, Baidu, Tesla as well as traditional carmakers such as GM, Ford, BMW and others polish their self-driving systems and build detailed maps of cities.

Under the hood (or more often in the boot) chips from Mobileye, Nvidia and Intel or systems from Tier 1 suppliers such as Bosch or Delphi power the systems that drive these vehicles.

In return for permission to test these vehicles on public roads, participants are required by the state to disclose statistics on performance, such as 'disengagements', a euphemism for instances where the human had to intervene, and observers have extrapolated from these data who is leading in the race to full autonomy.

Average distance travelled by autonomous systems without the need for human intervention.[15]

Based on these disclosures, it's no surprise to see Google (Waymo) out in front. But progress is being made at such a pace that this information could well have become wildly inaccurate by the time this article goes to press:



While one factor in the improving reliability of autonomy has come from the leaps in accuracy of image recognition algorithms, in turn powered by progress made in the field of deep learning, there's also a split in strategy by participants when it comes to how far they're willing to apply deep learning to the driving problem.

At one end, the approach is somewhat more conventional – apply deep learning trained image recognition models to understand the environment but more conventional rules–based programming to drive the car.

But some, such as graphics card maker Nvidia, observing the rate of progress achieved in machine learning, have concluded that an ambitious end-to-end deep learning approach might be more successful.

Oversimplifying somewhat, the idea is that if the neural network is sufficiently complex and adequately trained, humans will not have to think of and account for every possible road situation – rather the black-box like neural network will just 'know' how to react.

We're only just now reaching the stage where deep learning algorithms can recognise images with decent accuracy, and even then they can be easily fooled[16].

Dachshund or bagel?

Chihuahua or muffin?

Source: unknown

It seems a huge leap of faith to assume the algorithms will improve to that level. Most AI-driven successes to date concern relatively narrow applications where the inputs are relatively well defined – chess, go, image recognition. Some aspects of driving are like that, but then a lot of it isn't.

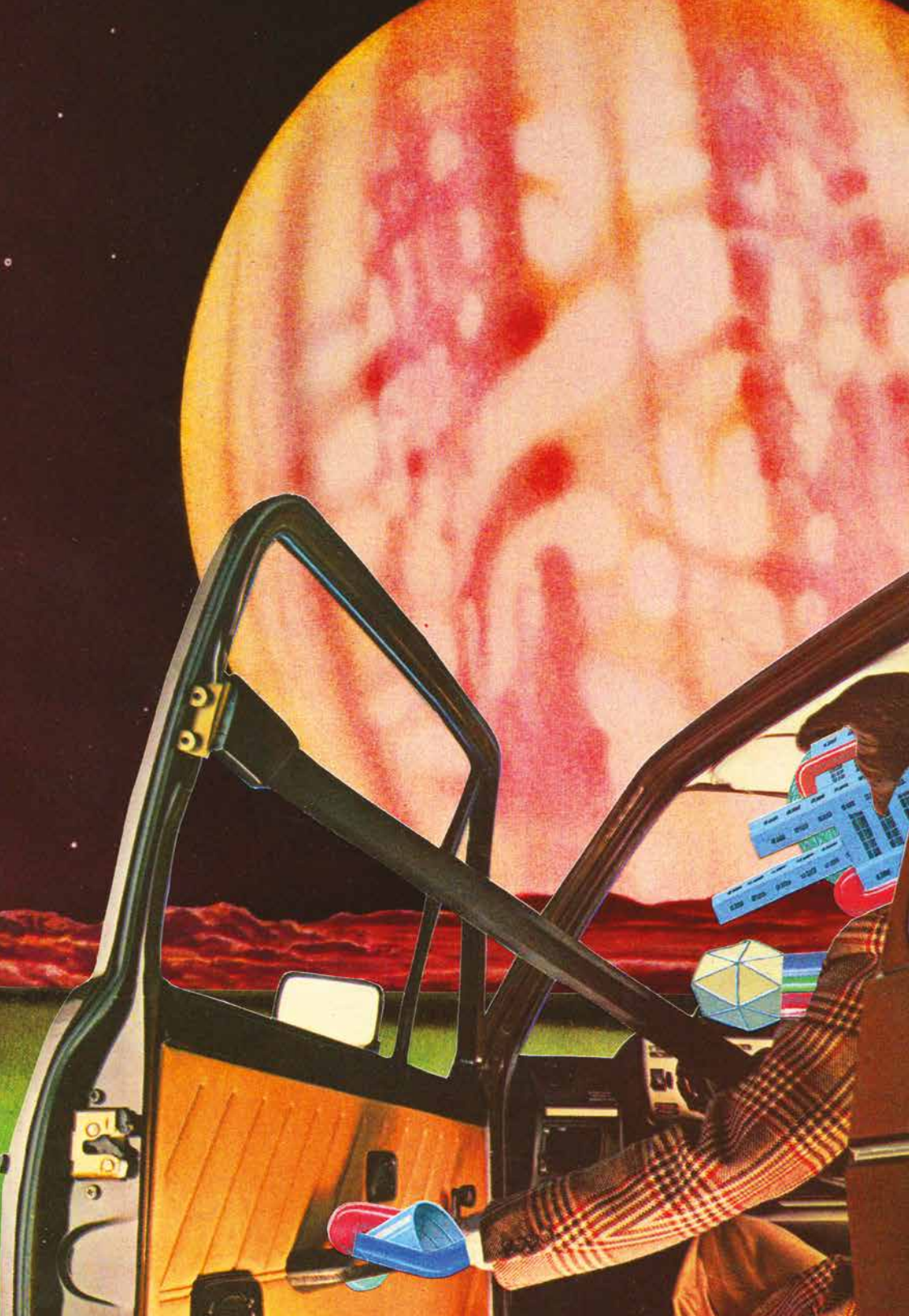
In a tangible example of where we are today, while detection of objects such as cars is very good, current algorithms have a problem detecting people on bicycles. Compared to cars the shape, colours and movement are so varied that the algorithms struggle to categorise them correctly or predict their direction of movement.[17]

In a hint to the massive localisation challenge developers face, the ABC recently reported[18] on how autonomous systems Volvo was testing in Australia were being confused by kangaroos – the systems relied on the ground as a reference point to calculate distance to the object and not expecting things to be airborne.

In any case, a prerequisite to accurate deep learning algorithms is a large cache of well-labelled training data. While not the sole determinant of success, it partly explains why there is such urgency to gather as much data with which to train the neural networks that will drive these cars – though even this is a somewhat contentious statement. As crazy as it sounds, some believe that a lot of the training can be done in computer simulations – essentially training the models in Grand Theft Auto, which is a mildly terrifying thought.

Another open question is what level of mapping data will be required and where that is going to come from. Similar to the data collection aspect, the quality and accuracy of map data may be correlated to how many cars are on the road collecting, uploading and sharing that with the fleet.

Such a situation would tend to favour those with the largest fleet, putting smaller volume carmakers at a disadvantage. It is for this reason we've seen consortiums like HERE formed amongst carmakers – in this case Audi, BMW and Daimler acquired Nokia's old mapping business with the purpose of building an independent mapping database that isn't hampered by a small fleet size. It's also why incumbent carmakers are so wary about ceding control of the data their cars are collecting to third parties, such as Google.



PART 3

Impact on Industry.

With enough time and space we could happily go on and on about what we think the business implications are of a shift to autonomy. But with respect to our readers' time we shall keep it to a relatively high level overview.

Winners – incumbents or newcomers

The importance of software, and especially deep learning software skills, is attracting a range of newcomers to the autonomous driving space, including Google, Baidu and Uber. It's of no surprise that observers are looking at the software engineering skills of traditional carmakers, concluding they pale in comparison to the likes of Google, and deciding that they're at significant risk of disruption.

Comparisons are made to the way Nokia and Blackberry were disrupted by the iPhone and Android, despite significant scale and vertical integration advantages at Nokia and efforts by both to build competing software platforms. The disengagement data mentioned in a previous section only seems to confirm the wide lead challengers seem to have over the incumbents. That this transition is happening at the same time as the transition to electric vehicles only seems to heighten the risks – exemplified by the aura surrounding Tesla, although China is arguably where the most exciting changes are occurring, with huge growth in EV sales, driven mostly by car industry newcomers such as BYD.

The concern for traditional carmakers only rises to alarm when one observes their reluctance to embrace the future or even cheat, such as VW famously did, than actually make low emission cars.

However, it's too soon to write off the traditional carmakers. Looking back through the history of the car industry it becomes apparent that technological advances in the cars have rarely led to sustained market share gains by any carmaker.

Rather, it has typically been innovations on the production side – such as the first production line by Henry Ford, vertical integration in the supply chain at GM, lean production methods at Toyota – that have given newcomers the breathing room to build scale, which remains the largest barrier to entry.

For all the bluster, Tesla can currently only manufacture fifty thousand cars a year today, even though with a market capitalisation of $42b it's valued roughly the same as Nissan, which made 5.5m cars in 2016, 100x times Tesla today. The incumbents are also aware of the threats and are ramping investments in autonomy, through strategic investments, such as GM into Lyft or through partnerships with technology providers such as Mobileye or Nvidia or direct R&D – almost all the large carmakers have facilities in the Bay Area and are testing vehicles today.

Who will buy cars?

The outcome of 76% of Americans commuting to work alone in their cars, is a large car fleet that is woefully under-utilised – just 4% utilisation, or just one hour a day. The rise of ride-sharing services such as Uber and Lyft, or even mundane taxis for that fact, give us a glimpse of this potential future, and also explains why both Uber and Lyft see autonomy both as an existential threat and an opportunity, and are investing heavily in both autonomy and EVs.

While individual car ownership is unlikely to disappear soon (and as anyone with small children will tell you how impractical ridesharing would be) the trend could make land transport look more like the airline industry. Looking at airline fleet utilisation, again with US data, the entire network utilisation is just over ten hours/day or 42%, with particularly efficient low-cost carriers exceeding twelve hours.[19]

Echoing this, a University of Texas study[20] found that one autonomous vehicle could replace up to twelve cars.

At the very least, if autonomy and ride sharing grow it implies greater fleet utilisation and possibly fewer cars on the road.

When the buyer shifts from the individual to the fleet owner, it has significant implications for the design of cars too – away from design cues that echo the personal values of the individual to more utilitarian and cost focused, though more reliable given the kind of distances they'll be expected to drive over their, possibly short, life. Most importantly, the relationship with the end user changes – again to use the airline analogy, a passenger's loyalty is with the airline, not the aircraft maker. This also explains why there's such a land grab on today for ride sharing services. Scale leadership at Uber or Lyft means a better service for customers, better data and eventually buying power with the carmakers.

Another Airline analogy – certification

What if like the airline industry autonomous cars require very stringent certification to get on the road – will that restrict participants to the few who can go through the process leading to the opposite of what EVs might have led to?

But to broadly paint our current view, in the long term we are pessimistic for car volumes but in the transition period we could

actually see car turnover increase, as the "smartphonification" of the car industry encourages people to upgrade faster to get newer safety and autonomous features. In the back of our minds however is the risk of the popping of the US subprime auto lending bubble, which in turn has been partly enabled by technology, namely GPS tracking devices in cars that lenders are now installing to facilitate recovery in the event of default.

How do cars change?

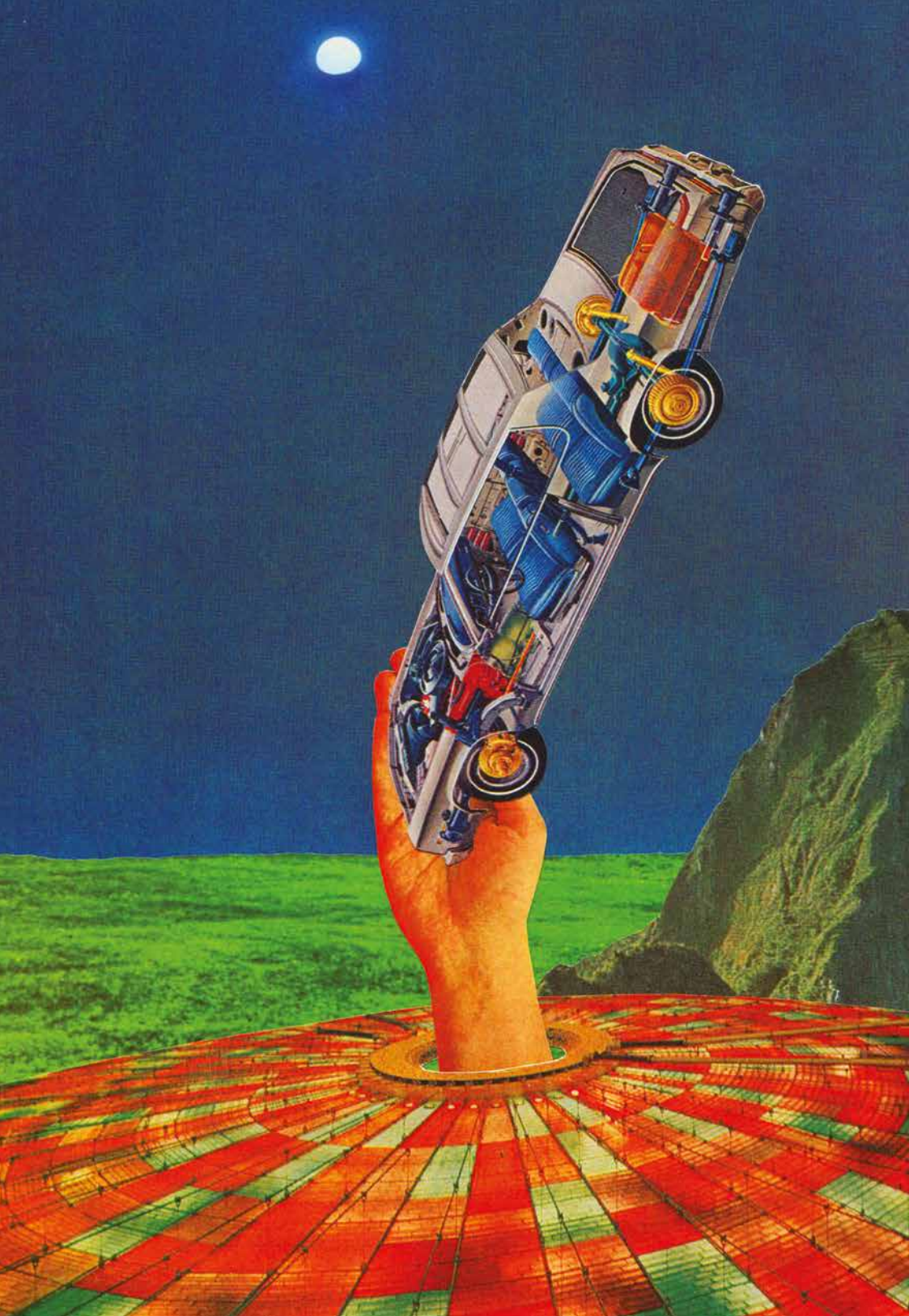
We foresee two profound changes in the how cars are made that will impact various peripheral industries. The inclusion of sensing and intelligence will shift the importance of sensors and software (and the hardware it runs on) from an afterthought to centre stage. It's no exaggeration to say that the software will be as disruptive as iOS and the App Store was to the phone market; a competitive autonomous platform will become table stakes for the car industry. The second change comes from the shift to electric drive trains, which on one hand presents opportunities for battery makers and power semiconductor chipmakers, while at the same time making obsolete many technologies such as common rail diesel injection, which are important earnings contributors to many of the carmakers' Tier 1 suppliers such as Continental, Denso and Bosch.

Further upstream we are starting to see the impact of EVs on some of the raw materials, with burgeoning exploration for lithium, cobalt and graphite resources the world over, the extraction of cobalt in particular is a pressure point, where the Democratic Republic of Congo accounts for 60% of global production but has a poor environmental and human rights track record on its extraction.[21]

What does it mean for insurance?

If human error is responsible for more than 90% of accidents and we take humans out of the picture, the number of accidents should fall – Tesla is already bragging about the 40% drop in crash rates from its level 2 ADAS system. In the US around $200b of car insurance premiums are collected by the industry every year – about one-third of the property and casualty insurance industry.[22]

Looking more broadly at developed markets, Munich Re puts motor insurance at 38%, or $500b of the broader property and casualty market.[23] For developed markets that accounts for around 1% of GDP. It should be expected that lower claims results in lower premiums and possibly lower margins for insurers. Again, referring to the Munich Re report mentioned above, their modelling indicates these technology features will shave $20b off insurance premiums in developed markets by 2020 – from $616b to $594b, though they don't see premiums peaking until after 2030. The tentative signs are there – Tesla has been experimenting with bundled insurance and maintenance plans in Asia and there's a (somewhat dubious) insurance 'app' called Root[24] that claims to offer discounts for self-driving features.



PART 4

How might it impact on society and civilisation?

While some of the near-term impacts on businesses are not particularly surprising, longer term it will be the second and third-order effects that will be.

Followers of the autonomous space often cite Carl Sagan, who observed, "It was easy to predict mass car ownership, but hard to predict Walmart" – deftly illustrating that it was easy to see how everyone might want to own a car, it wasn't initially obvious that the increased mobility would make big-box decentralised retail a viable business strategy and lead to the creation of one of the world's largest retailers.

And retail is another industry being disrupted by technology. By definition they will be hard to predict but also where the largest opportunities lie. By way of example, take the invention of clear glass...

The story of glass, the printing press and scientific discovery

A fascinating example, if a bit tortured in the context of autonomous cars, of how difficult it can be to predict the long-term impact of chain reactions of small innovations, is the discovery of clear glass and its impact on the world. Human manufacture and use of glass dates back to the Bronze Age but it was in the late thirteenth century when a wave of innovation began in Venice, inadvertently triggered when glass makers were concentrated, largely against their will, on the islands of Murano. Glass was at best translucent, not transparent until one glassmaker, Angelo Barovier, who was determined to perfect it, discovered a method of making crystal clear glass by adding soda ash made from saltwort plants around 1450.

This glass eventually found use in the first eyeglasses, but they were little known outside of churches and monasteries where they were used by aging clerics to read scripture.

It wasn't until Gutenberg's printing press made the bible widely accessible that the broader populace realised the importance of good eyesight and demand boomed for vision correction. In another hub of innovation, experimentation by eyeglass makers in Amsterdam in the late sixteenth century eventually led to the invention of both the microscope and the telescope, setting in motion an explosion of scientific discovery.

Who could have predicted that the invention of clear glass in Venice would ultimately be responsible for understandings as diverse as cell theory and the bacterial cause of disease through to our perception of the universe and optical communication?

Real estate and urban renewal

Almost invisible in its ubiquity, it can still be surprising how much space we dedicate to cars. Again, using US data, but it is estimated that there are around one billion parking spaces – four for every car.[25]

The aggregate space occupied by these parking spaces totals almost 17,000 square kilometres – the equivalent of paving a quarter of Tasmania in parking lots.

In urban centres, accommodating cars for parking accounts for 30% of land and floor space occupied. With both congestion and housing affordability issues plaguing many large cities globally, it seems almost perverse that we dedicate almost a third to housing cars, and in many cases either directly fund parking or legislate minimum parking spaces for new developments, effectively forcing non-car owners to subsidise owners through higher housing costs. It will be interesting to see how this space is recycled through time (and how cities will make up for lost parking fines.)

In urban areas, we are starting to get a taste of the impact through car sharing services such as GoGet and how they can relieve demand for parking in cities, even though there is some evidence that some are choosing these cars over public transport and contributing to congestion. We're probably getting a small glimpse of this future through the demise of the urban petrol station.

It will be hard to predict the impact partly because the cities we live in are so diverse – from dense cities with strong public transport networks such as Tokyo through to sprawling car-dependent cities such as Los Angeles. One might imagine a bigger impact on LA than Tokyo, but we are wary of making big predictions. It could go either way – LA streets are freed of their notorious congestion or conversely traffic gets worse because autonomous transport is cheap and plentiful.

Marchetti Wall

An Italian physicist Cesare Marchetti observed that one hour was roughly the commute limit for most people. Once it starts exceeding that, people tend to change their behaviour to reduce it, either through moving where they live or work or changing their method of commute. This time has supposedly remained constant since Neolithic times but faster modes of transport have consequently had an impact on broader urban structure.

Put another way, it's a simple observation that in order to survive, throughout our history humans have not been able to spend more than an hour of their day travelling and not actually doing what it is they need to survive. But the question then arises, if autonomy frees us up to do other things during our commute, be that working or even sleeping, does that break Marchetti's Wall opening up the possibility of much longer commutes?

Similarly, if autonomy actually increases average travel speed, thanks to fewer accidents and less congestion, does it allow even more distant commutes and more urban sprawl.

Millennials and cars

An interesting trend that has been occurring independent of the self-driving car phenomenon has been falling interest in car ownership by younger generations. While there may be economic factors at play, on the surface it seems youth don't see the car as the symbol of status, independence and mobility to the same extent their parents did. Illustrating this, the percentage of younger cohorts (16~20) with a drivers licence has fallen around 20 percentage points over a thirty year period.[26]

One could argue the smartphone has disrupted the car as a young person's method of staying in contact with their peer group and the emergence of cheap, available on-demand transport will only accelerate this.

There are tentative signs that this is not a phenomenon confined to the United States. ABS statistics show that between 2001 and 2015, in Victoria the number of people under the age of 25 with a drivers licence fell from 77% to 66%. This is partly due to more onerous learner's licence logging requirements but reflects the falling interest in driving seen in the US.[27]

Public transport

In some regions, Uber and Lyft are experimenting with pooled ridesharing (simply put, you get a cheaper ride if you agree to share the car with strangers with different destinations, or in the Lyft Shuttle case, the routes and stops are predetermined).

Internet commenters joked that we already had a name for this service – a bus. While it does resemble a bus, it's one that comes within minutes of you calling it and the route is optimised for all the passengers on board. The interplay between private autonomous fleets, public transport and regulations will be interesting to observe, though likely to have very different regional outcomes.

In the United States at least, many public transport operators saw drops in ridership in 2016[28] and some are already pointing the finger at ride-hailing services such as Uber, though it seems too early to be blaming these services solely for the drop in public transport usage. The drop also happened during a period when oil prices have fallen and car sales have hit a record, illustrating the complex interplay of factors that drive usage of different modes of transport.

In March 2017, the NSW Transport Minister Andrew Constance[29] speculated that technology and autonomy would make most public transport obsolete. It's probably a bit premature to make such claims, and given political leanings it could be perceived as a threat to privatise public transport services, but it's not hard to see the potential impact.

And while in an ideal world where there's a smaller, yet more utilised, fleet it should lead to less congestion and faster travel times, it remains an open question whether an autonomous fleet can entirely replace particularly dense forms of public transport such as trains.

One popular illustration of the impact of cars on urban environments was this one from the City of Meunster in Germany:

Car | Bicycle | Bus

Amount of space required to transport the same number of passengers by car, bicycle or bus.

While partly satirical, a riff on this image has been circulating[30] in recent months trying to drive home the point that autonomy doesn't really change anything:

Car | Uber | Autonomous car

Amount of space required to transport 60 people.

While there is some truth to this, it conveniently ignores the reduced total number of cars on the road at any point in time due to higher utilisation, the reduced need for parking, the reduced congestion from accidents and traffic waves (those weird traffic jams that happen on motorways for seemingly no reason).

But that idealistic future might be a while away and in the interim it may seem to get worse, especially if cheap autonomous transport starts supplanting public transport at the margin.

In fact, the New York subway system (along with many other metro transit systems in the US) reported a drop in ridership in 2016. While it's probably a number of factors, from the oil price, to falling service quality in some networks due to lower investment, that hasn't stopped some from pointing the finger at ridesharing services like Uber. If an autonomous EV fleet lowers the cost per trip even further, some will reasonably consider switching from public transport.

One interesting observation made by Benedict Evans,[31] a venture capitalist at Andreesen Horowitz was the speculation that autonomous driving could even lead to a resurgence in bicycle usage – if autonomy made the roads safer for people on bikes, might it entice more of us back on the roads? As just one example of second-order effects, could autonomy lead to a renaissance in cycling, further alleviating road congestion while reducing obesity and improving health outcomes for millions in the process?

Employment impacts

Up until now, we focused mainly on the positive economic impacts, but in the transition to autonomy, there are around 4 million Americans employed in jobs that involve driving – trucks, taxis, chauffeurs and ride-sharing drivers of which 3.5 million do it full time.[32]

They're jobs predominantly done by immigrants and low-skilled workers – groups that have already been excluded from the most of the spoils of America's economic growth. It would be naive to ignore these impacts.

Conversely, truck driving has at least been one of the few jobs that has been largely immune to the globalisation and automation trends that have affected Middle America. Over a 36–year period from 1978 to 2014, truck driver went from being the most common job in just nine states to 29 states.[33]

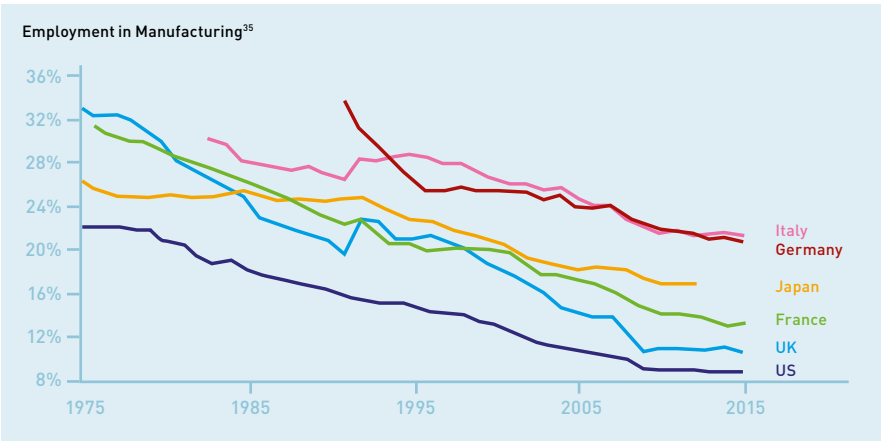
While the way the census groups driving jobs exaggerates the importance somewhat,[34] the trend through time is illustrative. There are a number of jobs that have been ravaged by automation during this period:

Machine operators – once the biggest job in eleven states, now none, as the shifting of production overseas and automation took its toll;

Farming – the biggest employer in eight states in 1978 but now only two, as farm equipment productivity has resulted in less employment;

Secretaries – from 21 states to just five, as the rise of the personal computer eliminated the need for a lot of bodies

As an aside, the decline in manufacturing hasn't been confined to the United States. Over a forty year period most industrialised economies have seen manufacturing employment decline:



Though it is somewhat notable that while we've all heard about the decline in manufacturing jobs in the US, we'd suggest that very few had thought much about the plight of the secretary. Part of it is probably due to sexist prejudices but probably also because they had skills that made them more flexible to find other employment.

But it highlights how employment is a fluid beast and that through time automation can cause huge disruptions under the surface.

And lest any of us feel too comfortable in our jobs, even fund managers are grappling with the challenges of active management in the age of passive investing, with BlackRock announcing a shift of some of its funds under management to quantitative strategies in March 2017, essentially replacing analysts and fund managers with computer models.[36]

Oil demand and exploration

Globally about 90 million barrels of oil are consumed every day and around two-thirds of that are used in all modes of transport, including aircraft. Looking solely at personal transport, such as passenger cars and light trucks (which includes SUVs) it accounts for 45% of total oil consumption.

In the short term lower oil prices and policy, such as a relaxation of fuel efficiency targets in the US, which seem likely in a Trump administration, may drive up oil demand, longer term we believe the cost advantages of EVs will make them the technology of choice for autonomous fleets. As a result, we think in the mid to long term that 45% of oil demand is probably going to zero.

While well beyond the scope of this report, the acceptance of climate change and any attempt to keep within the 2C target implies most of our fossil fuel reserves will have to stay in the ground. The reaction of OPEC to non-conventional oil production in the US potentially illustrates this changing mindset – rather than by cutting production and raising prices, OPEC kept production, eventually pushing prices down to $30 in early 2016. Such behaviour could be explained if one believed in a 'use it or lose it' outcome for oil reserves – it makes more sense to sell as much for $30 before it becomes worthless.

The Saudis have been especially attuned to the risks of technological disruption to their oil industry – Sheik Ahmed Zaki Yamani, the Saudi oil minister in the 1970s is reported[37] to have said, "The Stone Age didn't end for the lack of stone, and the oil age will end long before the world runs out of oil."

If current reserves are living on borrowed time, that also has difficult implications for companies that benefit from the search for more and development of those reserves, massive industries in their own right – in 2014 the oil industry spent $650b on exploration and development.

Closing Remarks:
Dystopic Outcomes and where we will be wrong

The biggest risk as investors is probably around timing. There are many optimistic views on when we might see autonomous cars plying urban streets in big cities around the world, but reasonable expectations seem to be around the 2020-2025 timeframe. Developers could run into intractable reliability issues due to general complexity of most urban streets; system costs could remain stubbornly too high, limiting adoption to a small volume of very high-end cars.

Conversely, autonomy could happen, but the outcome could be dystopian, rather than the optimistic outcomes we've described so far. For example, rather than cars occupied by single drivers driving around looking for a place to park, roads could be eternally congested with empty living rooms on wheels driving around waiting to pick up their owners.

In an application of Jevons paradox, collapsing transport costs could see demand and traffic explode increasing congestion, vehicles and demand for resources.

While we are excited in the long-term about the opportunities from autonomous vehicles, we remain cognisant of the risks of shorter-term economic cycles and any macroeconomic disruptions in the interim could have significant impacts on investments in the supply chain, from automakers through to component and software suppliers.

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[2] http://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/gender

[3] https://www.census.gov/hhes/commuting/files/2014/acs-32.pdf

[4] http://www.caee.utexas.edu/prof/kockelman/public_html/TRB17EconomicEffectsofAVs.pdf

[5] https://ops.fhwa.dot.gov/congestion_report/executive_summary.htm

[6] IDC, 2016

[7] Image source: https://en.wikipedia.org/wiki/History_of_autonomous_cars

[8] https://twitter.com/PessimistsArc/status/844937745306980353

[9] See 6 February 2017 Bloomberg New Energy Finance Report "Bottom Up Cost Scenarios For Lithium-Ion Batteries."

[10] For an Australian perspective, even with our much higher electricity prices EVs are still attractive, costing $4.7/100km for an EV and $7.8/100km for an ICE, assuming $0.3/kWh and $1.2/L in energy costs. For a car driven 20,000km a year the annual savings are more than $600.

[11] https://www.theinformation.com/what-intel-sees-in-mobileye-is-its-data

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