

Accounts disclaimer

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Report & Financial Statements

Syndicate 4020

2019

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Directors and administration

Managing agent

Ark Syndicate Management Limited

Directors

I Beaton	(Chief Executive)
N Bonnar	
N Brothers	
P Dawson	(Appointed 7 March 2019)
D Foreman	(Non-executive Chairman)
P McIntosh	
N Smith	
J Wardrop	(Non-executive)
C Watson	(Non-executive)
J Welman	(Non-executive)

Company secretary

J Masson

Managing agent's registered office

30 Fenchurch Avenue
London
EC3M 5AD

Managing agent's company registration number

05887810

Syndicate information

Active underwriters

N Fox
M Raven

Bankers

Lloyds TSB Bank plc
Citibank NA
Royal Bank of Canada

Investment managers

Conning Asset Management Limited
55 King William Street
London
EC4R 9AD

Registered auditors

KPMG LLP
15 Canada Square
London
E14 5GL

Managing agent's report

The directors of the managing agent present their annual report and accounts for the year to 31 December 2019.

Principal activity and review of the business

The principal activity of the Syndicate is the underwriting of direct and reinsurance business in the Lloyd's market. The managing agent of the Syndicate is Ark Syndicate Management Limited ("ASML"), a company incorporated in the UK. ASML also manages the affairs of Syndicate 3902 which commenced underwriting as a stand-alone syndicate in 2017. Gross written premium income for the year is set out below, along with a brief description of each class of business:

	2019 YOA Estimate £'000	2018 YOA Estimate £'000	2017 YOA Closed £'000	2019 Cal year £'000	2018 Cal year £'000
Marine & Energy	35,414	32,427	33,994	40,656	35,429
Property	81,688	67,870	63,758	80,186	74,602
Casualty	30,081	52,439	69,984	38,268	58,190
Specialty	96,725	106,737	100,606	118,263	101,279
	243,908	259,473	268,342	277,373	269,500

Category	Description
Marine & Energy	Cargo & Specie: Cargo is made up of general cargo transit and storage as well as higher value and more complex risks such as satellites, heavy lift, tows and project cargo. Specie includes fine art, metals, securities and vault risk written on an excess basis.
Marine & Energy	Marine & Energy Liabilities: Marine includes the reinsurance of the International Group of P&I Clubs. Energy is only offered in conjunction with Upstream Energy packages.
Marine & Energy	Marine Hull & Liabilities: Insurance of low profile, smaller fleet business and specialised tonnage, with some vessel construction, marine property and marine war.
Marine & Energy	Energy Upstream: Insurance of exploration and production property (on/offshore), control of well, removal of wreck, business interruption, construction and renewable energy from a broad geographic spread.
Property	Property Reinsurance: Predominantly non-proportional, balanced between US and Rest of World ("ROW") exposures.
Property	Property Direct & Facultative: Mostly low fire hazard occupancies, avoiding higher risk exposed classes such as mining, mineral processing and other heavy industries.
Property	Property Programmes: US and Canadian binding authorities, avoiding highly competitive middle market/larger commercial property accounts.
Casualty	Casualty Reinsurance: Predominantly US Medical Malpractice, Professional Liability and some General Liability.
Casualty	Specialty Programmes: Professional liability includes architects and engineers, insurance professionals and real estate agents E&O, Allied Health, Cyber Liability and Miscellaneous E&O. Contingency and Crisis management were discontinued in 2016.
Specialty	Accident & Health: Includes exposure across war, key man, disability, credit card personal accident insurance and reinsurance catastrophe.
Specialty	Specialty Reinsurance: Consists of Aviation and Specialty reinsurance, including crop and satellite. Very little Marine is written.
Specialty	War, Terrorism & Political Risk: Aviation War consists of airline hull war and excess AV52, and was discontinued in 2017. Terror is primarily pure Terrorism physical damage and business interruption, with a small amount of broad-form political violence, including war on land. Political risk focus is contract frustration and confiscation / expropriation. War on land is also written. Peak exposures are in emerging countries.
Specialty	Fine Art & Specie: Includes jewellers block, cash in transit, general specie and fine art written both primary and excess.

Principal risks and uncertainties

ASML maintains a risk register within its risk management framework. Identified risk events are grouped into major risk categories according to the nature of the potential threat they pose to the business. The risk management framework allows risks to be identified and controls to be put in place as necessary, either to prevent the occurrence of the event or to mitigate its impact. The principal risks of the Syndicate are set out in note 2 of the accounts.

Managing agent's report

	2017	2016	2015	2014	2013	2012	2011
Seven year summary – closed years	YOA	YOA	YOA	YOA	YOA	YOA	YOA
Syndicate allocated capacity (£m)	300.0	400.0	340.0	340.0	381.0	389.4	389.0
Number of Underwriting Members	1	2	3	3	1	426	434
Aggregate net premiums (£'000)	171,020	218,742	200,436	219,227	221,235	223,590	197,550
	%	%	%	%	%	%	%
Gross premium written (% of illustrative share)	66.7	66.5	85.1	91.9	73.9	72.2	62.4
Net premium written (% of illustrative share)	54.8	54.4	59.6	63.5	58.0	57.8	50.8
Profit (% of gross premium)	4.6	0.9	8.0	6.3	13.3	23.3	18.5
Profit (% of capacity)	3.1	0.6	6.8	5.8	9.8	16.9	11.5
Results for illustrative share of £10,000	£	£	£	£	£	£	£
Gross premiums written	6,667	6,650	8,511	9,192	7,389	7,223	6,235
Net premiums	5,484	5,435	5,959	6,351	5,801	5,783	5,079
RITC from an earlier year of account	9,389	7,496	8,739	9,333	7,491	6,759	6,361
Net claims	(4,842)	(4,635)	(4,864)	(4,935)	(4,288)	(3,137)	(3,153)
Reinsurance to close	(9,052)	(7,279)	(8,127)	(8,871)	(7,254)	(7,110)	(6,590)
Underwriting profit	979	1,017	1,707	1,878	1,750	2,295	1,697
Other syndicate operating expenses	(778)	(763)	(995)	(813)	(569)	(550)	(504)
Movement on foreign currency translation	75	(178)	10	(271)	(61)	(26)	(6)
Net investment income	192	130	271	75	249	511	343
Illustrative personal expenses:							
Managing agent's fee	(75)	(77)	(77)	(77)	(75)	(75)	(75)
Profit commission ("PC")	(16)	(6)	(155)	(130)	(245)	(419)	(241)
Other personal expenses	(67)	(66)	(80)	(81)	(68)	(51)	(60)
Profit after illustrative personal expenses / PC	310	57	681	581	981	1,685	1,154

Underwriting performance

YOA:

The 2017 YOA has closed with a profit of £9.3m after all standard personal expenses, equivalent to a profit on stamp capacity of 3.1%. The YOA has been impacted by a series of catastrophe events - Hurricanes Harvey, Irma and Maria, the earthquakes in Mexico and wildfires in California. Long tail international casualty reserves have been strengthened in recognition of incurred and potential future claim development.

The 2018 YOA is forecast at the 24 month to make a mid-point loss of £7.0m. The YOA has also been impacted by a series of catastrophe events – Hawaii lava flow, Typhoon Jebi, Hurricanes Florence and Michael, and Californian wildfires Camp and Woolsey. A forecast is not currently required for the 2019 YOA.

	2019 YOA	2018 YOA
Capacity	£300.0m	£300.0m
Forecast results (% of capacity)	na	(4.8%)-0.2%

Managing agent's report

Calendar year:

The underwriting profit for the 2019 calendar year is £21.7m. The performance in the year has been impacted by strengthening to long tail international casualty reserves. The calendar year result together with key performance indicators is shown below:

	2019	2018
Profit / (loss) for the financial year (£'000)	8,361	(12,791)
Claims ratio (%)	60.8%	63.2%
Expense ratio (%)	38.6%	43.4%
Combined ratio (%)	99.4%	106.6%

The claims ratio is the ratio of claims incurred net of reinsurance to earned premiums net of reinsurance. The expense ratio is the ratio of operating expenses and acquisition costs (excluding foreign exchange movements) to earned premiums net of reinsurance. The claims ratio reflects the underwriting issues noted above, and the expense ratio is broadly in line with expectations. The combined ratio including all foreign exchange movements is 99.8% (2018: 106.4%).

Operating expenses

Operating expenses, as set out below, are in line with expectations.

	2019 £'000	2018 £'000
Acquisition costs – brokerage and commissions	69,651	76,983
Acquisition costs – other	5,010	4,921
Administrative expenses	18,673	25,378
Managing agency fee	2,250	2,331
Personal expenses	(754)	(82)
Operating expenses	94,830	109,531

Cash flow

There was a net cash flow decrease of £6.1m (2018: £33.7m) in the year arising from normal operating activities. Profit releases on open years of £7.3m (2018: £9.2m) were made during the year.

Investment return

Syndicate funds are actively managed by third party investment managers. The Syndicate has a diversified portfolio in corporate debt, cash, property funds and investment funds with an average duration that is appropriate compared to the expected liability duration. Investment returns for the 2019 calendar year, as set out below, are considered to be adequate.

	2019	2018
Average funds available for investment (US\$'000)	535,456	563,329
Investment return for the year before allocation to Syndicate 3902 (US\$'000)	10,544	5,263
Annualised investment return (%)	2.0%	0.9%

Financial position

The main components of the balance sheet are technical provisions and investments and cash.

Technical provisions include a provision for outstanding claims of £416.4m (2018: £480.2m) and a provision for unearned premiums of £148.2m (2018: £156.7m). The reinsurers' share of technical provisions is £38.0m (2018: £86.6m) in respect of unearned premiums and £15.1m (2018: £15.8m) for outstanding claims. The provision for outstanding claims is based on evaluations of reported claims and estimates for losses incurred but not reported ("IBNR"). As claims may not be settled for a number of years after they are incurred, the setting of provisions involves a degree of judgement as to the ultimate exposure to losses. Investments and cash total £377.4m (2018: £394.9m) the majority of which are actively managed by third party investment managers.

Ark Syndicate Management Limited

Syndicate 4020

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Managing agent's report

Auditors and Annual general meeting

As permitted under the Syndicate Meeting (Amendment No.1) Byelaw it is not proposed to hold a Syndicate Annual General Meeting. The members of the Syndicate intend to reappoint KPMG LLP as auditors.

Disclosure of information to auditors

The directors of ASML who held office at the date of approval of this report confirm that, so far as they are each aware, there is no relevant audit information of which the auditors of the Syndicate are unaware; and each director has taken all the steps that he ought to have taken as a director to make himself aware of any relevant audit information and to establish that the auditors of the Syndicate are aware of that information.

Directors

The directors of ASML served from 1 January 2019 to the date of this report, unless stated otherwise. Shareholdings in the ultimate parent company of ASML, Ark Insurance Holdings Limited ("AIHL") are stated as at 31 December 2019.

Name	H Shares (2015)	H Shares (2016)	H Shares (2017)	H Shares (2018)	H Shares (2019)	H Shares (2020)
	No.	No.	No.	No.	No.	No.
I Beaton (Chief Executive)	386,341	494,516	494,516	494,516	494,516	-
N Bonnar	386,341	494,516	494,516	494,516	494,516	-
N Brothers	-	-	3,750	4,500	6,000	6,000
P Dawson (Appointed 7 March 2019)	-	-	18,545	18,545	20,000	20,000
D Foreman (Non-executive Chairman)	-	-	-	-	-	-
P McIntosh	-	-	15,825	15,825	17,000	17,000
N Smith	-	-	13,847	13,847	15,000	17,500
J Wardrop (Non-executive)	-	-	-	-	-	-
C Watson (Non-executive)	-	-	-	-	-	-
J Welman (Non executive)	-	-	-	-	-	-

I Beaton and N Bonnar also each hold the following shares in AIHL - 92,230 Preference 1 shares (2018: 92,230), 121,788 Preference 2 shares (2018: 121,788), 100 T shares (2018: 100) and 70 Z shares (2018: 70). AIHL has maintained throughout the year Directors' and officers' liability insurance for the benefit of the Ark group, the Directors and its officers.

Future developments

The capacity of the Syndicate for the 2020 YOA is £300.0m (2019 YOA: £300.0m). The capacity of Syndicate 3902 for the 2020 YOA is £100.0m (2019 YOA: £100.0m).

N Fox
Active Underwriter
5 March 2020

M Raven
Active Underwriter
5 March 2020

Statement of managing agent's responsibilities

The directors of the managing agent are responsible for preparing the Syndicate annual accounts in accordance with applicable law and regulations.

The Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008 requires the directors of the managing agent to prepare their Syndicates annual accounts for each financial year. Under that law they have elected to prepare the annual accounts in accordance with UK Accounting Standards and applicable law (UK Generally Accepted Accounting Practice), including FRS 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland*.

Under Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008 the directors of the managing agent must not approve the annual accounts unless they are satisfied that they give a true and fair view of the state of affairs of the Syndicate and of the profit or loss of the Syndicate for that period. In preparing these financial statements, the directors of the managing agent are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the annual accounts;
- assess the syndicate's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to cease trading, or have no realistic alternative but to do so.

The directors of the managing agent are responsible for keeping adequate accounting records that are sufficient to show and explain the Syndicate's transactions and disclose with reasonable accuracy at any time the financial position of the Syndicate and enable them to ensure that the financial statements comply with the Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the company and to prevent and detect fraud and other irregularities.

The directors of the managing agent are responsible for the maintenance and integrity of the Syndicate and financial information included on the Syndicate's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

On behalf of the ASML Board

Neil Smith
Finance Director
5 March 2020

Independent auditors' report to the members of Syndicate 4020

Opinion

We have audited the financial statements of Syndicate 4020 for the year ended 31 December 2019 which comprise the Statement of Profit or Loss: Technical account – General business, Statement of Profit or Loss: non-technical account, Statement of other comprehensive income, Balance Sheet – Assets, Balance Sheet – Liabilities, Statement of Changes in Members' Balances, Statement of Cash Flows, and related notes, including the accounting policies in note 1.

In our opinion the financial statements:

- give a true and fair view of the state of the syndicate's affairs as at 31 December 2019 and of its profit for the year then ended;
- have been properly prepared in accordance with UK accounting standards, including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland; and
- have been prepared in accordance with the requirements of the Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities are described below. We have fulfilled our ethical responsibilities under, and are independent of the syndicate in accordance with, UK ethical requirements including the Financial Reporting Council ("FRC") Ethical Standard. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion.

Going concern

The directors of the Managing Agent have prepared the financial statements on the going concern basis as they do not intend to cease underwriting or to cease its operations, and as they have concluded that the syndicate's financial position means that this is realistic. They have also concluded that there are no material uncertainties that could have cast significant doubt over its ability to continue as a going concern for at least a year from the date of approval of the financial statements ("the going concern period").

We are required to report to you if we have concluded that the use of the going concern basis of accounting is inappropriate or there is an undisclosed material uncertainty that may cast significant doubt over the use of that basis for a period of at least a year from the date of approval of the financial accounts. In our evaluation of the directors' conclusions, we considered the inherent risks to the syndicate's business model, including the impact of Brexit, and analysed how those risks might affect the syndicate's financial resources or ability to continue operations over the going concern period. We have nothing to report in these respects.

However, as we cannot predict all future events or conditions and as subsequent events may result in outcomes that are inconsistent with judgements that were reasonable at the time they were made, the absence of reference to a material uncertainty in this auditor's report is not a guarantee that the syndicate will continue in operation.

Report of the directors of the Managing Agent

The directors are responsible for the Report of the directors of the Managing Agent. Our opinion on the financial statements does not cover that report and we do not express an audit opinion or, except as explicitly stated below, any form of assurance conclusion thereon.

Our responsibility is to read the Report of the directors of the Managing Agent and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work we have not identified material misstatements in that report.

In our opinion the information given in the Report of the Directors of the Managing Agent is consistent with the financial statements.

Matters on which we are required to report by exception

Under the Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008, we are required to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in these respects.

Independent auditors' report to the members of Syndicate 4020

Responsibilities of the directors of the Managing Agent

As explained more fully in their statement set out on page 8, the directors of the Managing Agent are responsible for: the preparation of the financial statements and for being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the syndicate's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to cease trading, or have no realistic alternative but to do so.

Auditor's responsibilities

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and 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 statements.

A fuller description of our responsibilities is provided on the FRC's website at www.frc.org.uk/auditorsresponsibilities.

The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the syndicate's members, as a body, in accordance with the Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008. Our audit work has been undertaken so that we might state to the syndicate's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the syndicate's members, as a body, for our audit work, for this report, or for the opinions we have formed.

Ben Priestley (Senior Statutory Auditor)
for and on behalf of KPMG LLP, Statutory Auditor
Chartered Accountants
15 Canada Square
London, E14 5GL
5 March 2020

Income statement

For the year ended 31 December 2019

	Notes	2019 £'000	2018 £'000
Technical account			
<i>Earned premiums, net of reinsurance</i>			
Gross premiums written	3	277,373	269,500
Outward reinsurance premiums		(35,527)	(34,158)
<i>Change in the provision for unearned premiums</i>			
Gross amount		3,866	17,847
Reinsurers' share		83	(754)
Earned premiums, net of reinsurance		245,795	252,435
Allocated investment return transferred from the non-technical account	4	6,843	3,820
<i>Claims incurred, net of reinsurance</i>			
Claims paid			
Gross amount		(180,972)	(223,694)
Reinsurers' share		27,410	56,822
		(153,562)	(166,872)
<i>Change in the provision for claims</i>			
Gross amount		49,323	32,309
Reinsurers' share		(45,208)	(24,952)
		4,115	7,357
Claims incurred, net of reinsurance		(149,447)	(159,515)
Operating expenses	5	(94,830)	(109,531)
Balance on the technical account for general business		8,361	(12,791)
Non-technical account			
Investment income		6,843	3,820
Allocated investment return transferred to technical account		(6,843)	(3,820)
Profit / (loss) for the financial year		8,361	(12,791)

Statement of other comprehensive income

	Notes	2019 £'000	2018 £'000
Profit / (Loss) for the financial year		8,361	(12,791)
Foreign exchange translation differences		(1,108)	497
	13	7,253	(12,294)

All operations are continuing. The notes on pages 14 to 30 form part of these accounts.

Balance sheet

As at 31 December 2019

	Notes	2019 £'000	2018 £'000
Assets			
Financial assets	7	357,694	388,515
Reinsurance assets	8	53,127	102,331
Insurance receivables	10	101,840	100,185
Other debtors		2,098	4,969
Cash at bank and in hand	11	19,740	6,422
Deferred acquisition costs	9	41,434	44,754
Other prepayments and accrued income		2,406	2,358
Total assets		578,339	649,534
Capital, reserves and liabilities			
<i>Capital and reserves</i>			
Members' balances attributable to underwriting participations	13	(8,288)	(15,162)
<i>Liabilities</i>			
Insurance liabilities	12	564,574	636,853
Other payables	14	20,206	27,745
Accruals and deferred income		1,847	98
Total liabilities		586,627	664,696
Total capital, reserves and liabilities		578,339	649,534

The notes on pages 14 to 30 form part of these accounts. The accounts were approved by the Board of Ark Syndicate Management Limited on 5 March 2020 and signed on its behalf by

N Smith
Finance Director
5 March 2020

Statement of cash flows

For the year ended 31 December 2019

	Notes	2019 £'000	2018 £'000
Operating result		8,361	(12,791)
Change in gross technical provisions		(72,280)	(24,645)
Change in reinsurers' share of gross technical provisions		49,205	34,537
Change in debtors		1,217	10,912
Change in creditors		(7,540)	(29,390)
Change in other assets / liabilities		5,022	-
Investment return		(6,843)	(3,820)
Foreign exchange		9,591	(15,987)
Net cash flows from operating activities		(13,267)	(41,184)
Purchase of equity and debt instruments		(62,112)	(179,860)
Sale of equity and debt instruments		82,015	243,668
Investment income received		12,124	4,059
Investment management fees		(5,064)	(1,414)
Net cash flows from investing activities		26,963	66,453
Distribution loss / (profit)		6,889	(16,316)
Open year release	13	(7,267)	(9,166)
Net cash flows from financing activities		(378)	(25,482)
Net increase / (decrease) in cash and cash equivalents		13,318	(213)
Cash and cash equivalents at 1 January		6,422	6,635
Cash and cash equivalents at 31 December	11	19,740	6,422

The notes on pages 14 to 30 form part of these accounts.

Notes to the financial statements

1. Statement of accounting policies

The financial statements have been prepared in accordance with the Insurance Accounts Directive (Lloyd's Syndicate and Aggregate Accounts) Regulations 2008 and Financial Reporting Standard 102 *The Financial Reporting Standard applicable in the UK and Republic of Ireland* ("FRS 102") as issued in August 2015, and Financial Reporting Standard 103 *Insurance Contracts* ("FRS 103") as issued in March 2015.

Basis of preparation

The financial statements are prepared using the historical cost convention except that financial investments and derivative financial instruments are stated at their fair value. All amounts presented are stated in Sterling, unless stated otherwise. The financial statements have been prepared on a going concern basis. The directors of ASML have a reasonable expectation that the Syndicate has adequate resources to continue in operational existence for the foreseeable future.

Use of judgements and estimates

In preparing these accounts, the directors of ASML have made judgements, estimates and assumptions that affect the application of the Syndicate's accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to estimates are recognised prospectively. The measurement of the provision for claims outstanding involves judgments and assumptions about the future that have the most significant effect on the amounts recognised in the financial statements.

Insurance contracts

Insurance contracts (including inwards reinsurance contracts) are defined as those containing significant insurance risk. Insurance risk is considered significant if, and only if, an insured event could cause Ark to pay significant additional benefits in any scenario, excluding scenarios that lack commercial substance. Such contracts remain insurance contracts until all rights and obligations are extinguished or expire.

Premiums written and earned

Premiums written comprise premiums on contracts inception during the financial year as well as adjustments made in the year to premiums written in prior accounting years. Premiums are shown gross of acquisition costs such as brokerage payable and taxes and duties levied on them. Estimates are made for pipeline premiums, representing amounts due but not yet notified. Written premiums are recognised as earned according to the risk profile of the policy. Unearned premiums represent the proportion of premiums written in the year that relate to unexpired terms of policies in force at the balance sheet date. The provision is calculated on a policy by policy basis.

Reinsurance premiums ceded

Outwards reinsurance premiums are accounted for in the same accounting year as the premiums for the direct or inwards business being reinsured.

Claims provisions and related recoveries

The provision for claims comprises amounts set aside for claims notified and claims incurred but not yet reported ("IBNR").

Claims incurred comprise claims and claims handling expenses paid in the year and the movement in provision for outstanding claims and future claims handling expenses. Recoverable amounts arising out of subrogation and salvage together with reinsurance recoveries are deducted from the cost of gross claims.

Outstanding claims consist of amounts set aside for notified claims and a provision for IBNR claims. The amount included in respect of IBNR is arrived at by considering the actuarially calculated provision, using techniques that generally involve statistical techniques of estimation applied by ASML's actuaries and reviewed by external consulting actuaries, as well as the opinion of the class underwriters and executive management. The actuarial techniques generally involve projecting from past experience of the development of claims over time to form a view of the likely ultimate claims to be experienced for more recent underwriting having regard to variations in the business accepted and the underlying terms and conditions. Large claims are generally assessed individually, being calculated on a case by case basis or projected separately to allow for the possible distortive effects of the developments of these claims on the balance of the data. The provision for claims also includes amounts in respect of internal and external claims handling costs.

The reinsurers' share of provisions for claims is based on calculated amounts of outstanding claims and projections for IBNR, net of estimated irrecoverable amounts, having regard to the reinsurance programme in place for the class of business, the claims experience for the year and the current security rating of the reinsurance companies involved. The Syndicate uses a number of statistical techniques to assist in making these estimates.

Notes to the financial statements

1. Statement of accounting policies (continued)

Accordingly the two most critical assumptions as regards claims provisions are that the past is a reasonable predictor of the likely level of claims development and that the rating and other models used for current business are fair reflections of the likely level of ultimate claims to be incurred. Ultimate liability will vary as a result of subsequent information and events and this may result in significant adjustments to the amounts provided. Adjustments to the amount of claims provisions established in prior years are reflected in the financial statements for the year in which the adjustments are made. The methods used, and the estimates made, are reviewed regularly.

Acquisition costs

Acquisition costs, comprising brokerage and taxes and duties levied on them are deferred to the extent that they are attributable to premiums unearned at the balance sheet date.

Foreign currency translation

a) Functional and presentation currency

Items included in the financial statements are measured using the US dollar, the currency of the primary economic environment in which the Syndicate operates ("functional currency"). The financial statements are presented in Sterling, being the presentation currency of the Syndicate. Differences arising from the translation from the functional to presentation currency are presented in the statement of other comprehensive income.

b) Transactions and balances

Foreign currency transactions are translated into the functional currency using average exchange rates applicable to the period in which the transactions take place and where the company considers these to be a reasonable approximation of the transaction rate. Foreign exchange gains and losses resulting from the settlement of such transactions and from translation at the period end of monetary assets and liabilities denominated in foreign currencies are recognised in the statement of profit or loss. Non-monetary items recorded at historical cost in foreign currencies are translated using the exchange rate on the date of the initial transaction. For the purposes of foreign currency translation, unearned premiums and deferred acquisition costs are treated as if they are monetary items.

Financial assets

Financial assets are recognised in the balance sheet at such time as the Syndicate becomes a party to the contractual provisions of the financial asset. Purchases and sales of financial assets are recognised on the trade date, which is the date the Syndicate commits to purchase or sell the asset. A financial asset is derecognised when the contractual rights to receive cash flows from the financial assets expire, or where the financial assets have been transferred, together with substantially all the risks and rewards of ownership. Financial liabilities are derecognised if the obligations specified in the contract expire, are discharged or cancelled.

On acquisition of a financial asset, the Syndicate is required to classify the asset into one of the following categories: financial assets at fair value through the statement of profit or loss, loans and receivables, assets held to maturity and assets available for sale. The Syndicate has classified its investments as financial assets at fair value through profit or loss because they are managed and their performance is evaluated on a fair value basis. Information about these financial assets is provided internally on a fair value basis to management, and the investment strategy is to invest and evaluate their performance with reference to their fair values.

Fair value is the price at which an orderly transaction to sell an asset or to transfer a liability would take place between market participants at the measurement date. When available, the fair value of an instrument is measured using quoted prices in an active market for that instrument. A market is regarded as active if quoted prices are readily and regularly available and represent actual and regularly occurring market transactions on an arm's length basis. If a market for a financial instrument is not active, the fair value is established using a valuation technique. Valuation techniques include using recent orderly transactions between market participants (if available), reference to the current fair value of other instruments that are substantially the same, discounted cash flow analyses and option pricing models. The chosen valuation technique makes maximum use of market inputs, relies as little as possible on specific estimates, incorporates all factors that market participants would consider in setting a price, and is consistent with accepted economic methodologies for pricing financial instruments. Inputs to valuation techniques reasonably represent market expectations and measures of the risk-return factors inherent in the financial instrument. Where possible, valuation techniques are calibrated and tested for validity using prices from observable current market transactions in the same instrument or based on other available observable market data.

Notes to the financial statements

1. Statement of accounting policies (continued)

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e. the fair value of the consideration given or received, unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument (i.e. without modification or repackaging) or based on a valuation technique whose variables include only data from observable markets. When transaction price provides the best evidence of fair value at initial recognition, the financial instrument is initially measured at the transaction price and any difference between this price and the value initially obtained from a valuation model is subsequently recognised in profit or loss depending on the individual facts and circumstances of the transaction but not later than when the valuation is supported wholly by observable market data or the transaction is closed out.

Upon initial recognition, attributable transaction costs relating to financial instruments at fair value through profit or loss are recognised in the statement of profit or loss when incurred. Financial assets at fair value through profit or loss are continually measured at fair value, and changes therein are recognised in the statement of profit or loss. Net changes in the fair value of financial assets at fair value through profit or loss exclude interest and dividend income, as these items are accounted for separately as set out below.

Insurance receivables and payables

Insurance receivables and payables are recognised when due. These include amounts due to and from agents, brokers and insurance contract holders. Insurance receivables are classified as 'loans and receivables' as they are non-derivative financial assets with fixed or determinable payments that are not quoted on an active market. Insurance receivables are measured at amortised cost less any impairment losses. Insurance payables are stated at amortised cost.

Other receivables

Other receivables are carried at amortised cost less any impairment losses.

Investment income

Investment income consists of dividends, interest, realised and unrealised gains and losses and foreign exchange gains and losses on financial assets at fair value through the statement of profit or loss. Dividends on equity securities are recorded as revenue on the ex-dividend date. Interest is recognised separately on an amortised cost basis using the effective interest rate method for financial assets at fair value through the statement of profit or loss. The realised gains or losses on disposal of an investment are the difference between the proceeds and the original cost of the investment. Unrealised investment gains and losses represent the difference between the carrying value at the reporting date, and the carrying value at the previous period end or purchase value during the period.

Other payables

Other payables are stated at amortised cost determined on the effective interest rate method.

Cash and cash equivalents

Cash and cash equivalents consist of cash at bank and in hand, deposits held at call with banks and other short-term highly liquid investments with maturities of three months or less from the date of acquisition. Cash and cash equivalents are classified as loans and receivables and carried at amortised cost less any impairment losses.

2. Management of risk

Approach to risk management

Ark's core business relies on the assumption of internal and external risk within the appetites and tolerances established by the Board. Primarily Ark's business is the assumption of Insurance Risk and Market Risk, with the additional categories of Credit Risk, Liquidity Risk, Operational Risk and Group Risk. Managing these risks in a manner that is consistent with the strategy, appetites and tolerances established by the Board requires that Ark has in place a systematic, objective, and robust set of governance arrangements and processes for identifying and quantifying the risks to which it is exposed. This enables Ark to determine appropriate strategies and approaches for prevention and mitigation.

The effectiveness with which Ark manages risk is a key determinant of the level of capital resources required to run the business and its ability to achieve its strategic objectives including, in relation to capital efficiency and the production of acceptable levels of return.

Notes to the financial statements

2. Management of risk (continued)

Insurance risk

This is the risk arising from the uncertainties in timing, frequency and severity of insured losses, relative to the expectations made at the time of business planning or underwriting. Ark's business is based on the seeking and assumption of insurance risk. The Syndicate writes a balanced and diversified book of business through a team of experienced underwriters with the objective of charging appropriate premiums to cover claims and operational costs whilst optimising the expected return on equity. Target returns are assessed each year, taking into account the insurance market outlook and realistic expectations of return on equity. Insurance risk comprises the following elements:

a) Exposure management risk

This is the risk of exposure to an event, or a series of events, which causes a potential financial loss that exceeds expectations. The nature of Ark's business and underwriting portfolio includes the assumption of a high degree of catastrophe, non-catastrophe and accumulative exposure to different events. This is managed through the purchase of reinsurance and diversification of business lines and geographical areas to balance exposures, with the aim of reducing the risk that one event, or a series of events, will cause unacceptable loss to the business. Ark's catastrophe and non-natural catastrophe modelling processes incorporate Ark-specific disaster scenarios, aggregate caps and cross-class modelling which reflect the diversity of the portfolio.

b) Underwriting quality risk

This is the risk of inappropriate underwriting or the inadequate pricing of risks which can lead to unprofitable business or inefficient line utilisation and risk selection. The management of underwriting quality can be difficult in a competitive market where underwriters are often under pressure to meet premium and pricing targets. Ark operates an underwriting controls framework which includes individual underwriting authorities, continual quality monitoring and peer review of risks. The framework aims to ensure a high quality of underwriting through monitoring of pricing and rate change, contract certainty and agreement of appropriate terms and conditions.

c) Delegated underwriting quality risk

This is the risk of exposure to inappropriate risks through the delegation of underwriting authorities to third parties or the delegation of authority to inappropriate third parties. The nature of delegated underwriting naturally increases the risk of underwriting, through the ability of third parties being able to bind the Syndicate to risks without detailed review of the risk involved. This risk is mitigated through the application of strict guidelines, managed by a dedicated team within the Compliance department. This team reviews coverholder and third party authority ("TPA") approvals pre-bind and monitors a programme of audits to ensure compliance with regulations and guidelines.

d) Claims management risk

This is the risk that claims made are not managed in an appropriate manner, leading to material adverse results through an increase in claims, payments or exposure to legal issues. The management of claims is conducted in accordance with claims procedures, which are, in turn, in line with the Lloyd's Minimum Standards. This includes the management of claims workflows and response times, reviews of major claims to ensure accurate estimates, regular reserving reviews and management of complaints. These processes are enhanced through communication with underwriting teams to understand the policy or portfolio and with the Compliance department to manage coverholders and TPAs.

e) Reserving risk

This is the risk that the estimated claims reserves differ materially from the ultimate cost of the claim or event. Reserving risk is a significant category in the Internal Model and has the potential to significantly impact profitability. The potential impact is controlled through the use of a mix of actuarial models and methods, industry data and underwriter experience to produce reliable estimates that are based on up to date information, and consistently applied over time and across classes of business. These estimates are subject to an external review each year.

f) Reinsurance purchasing

This is the risk of purchasing insufficient or inappropriate reinsurance, or the exhaustion of reinsurance, leading to excessive or unexpected losses. The process of reinsurance purchasing forms a major part of Ark's business planning process and includes the use of the Internal Model as a tool for decision making. Reinsurance is purchased for a mixture of risk and event losses across the majority of classes, in a mixture of excess of loss and proportional cover, dependent on the scale and characteristics of the class or treaty concerned. Ark also employs controls and monitoring around the use of insurers, credit ratings and concentration risk.

Notes to the financial statements

2. Management of risk (continued)

g) Underwriting management

This is the risk that returns from the policies written are different from expectations or are not in line with the business plan. Examples include a failure to reduce or exit from unprofitable business or a failure of underwriters to follow the business plan which sets out the parameters, classes, limitations and profitability expectation of underwriting teams for the forthcoming year. Communication of the business plan to the underwriting teams is therefore imperative. The performance of each class and the syndicate portfolio as a whole is reviewed against the business plan on a regular basis by the Board and various committees using information available from the management information portal. Various controls are in place to ensure constant vigilance including underwriting authorities, monitoring of risk codes, geographical aggregates and data quality.

	2019 Impact on profit £'000	2018 Impact on profit £'000	2019 Impact on net assets £'000	2018 Impact on net assets £'000
Sensitivity to net claim liability movements				
5% increase in total net claim liabilities	(18,919)	(26,726)	(18,919)	(26,726)
5% decrease in total net claim liabilities	18,919	26,726	18,919	26,726

Credit risk

Credit risk arises when counterparties fail to meet their obligations in full as they fall due. The key areas where credit risk can arise include reinsurers, brokers, coverholders and investment counterparties.

The probability of reinsurer default is modelled by the Actuarial team as part of the Internal Model. Ark seeks to reduce this risk by avoiding over-reliance on specific reinsurers through the application of concentration limits and thresholds. This is monitored by the Security Advisory Committee ("SAC"). Prior to the transaction of business, broker and coverholder default is mitigated through the application of due diligence on new and existing counterparties, and a rolling audit schedule post-bind. Overdue premium is also monitored by class, broker and age of debt. The investment portfolio is managed in line with asset allocation guidelines which are monitored by type, counterparty, quality and duration. Ark outsources the management of a significant proportion of its investment portfolio to managers who monitor and report on performance and adherence to guidelines on a regular basis.

	A or above £'000	BBB £'000	Lower than BBB £'000	Unrated £'000	Total £'000
2019 – credit risk analysis					
Financial assets at fair value	193,182	9,070	106	155,336	357,694
Reinsurance assets	44,513	12	-	21,537	66,062
Cash and cash equivalents	-	-	-	19,740	19,740
	237,695	9,082	106	196,613	443,496

	A or above £'000	BBB £'000	Lower than BBB £'000	Unrated £'000	Total £'000
2018 – credit risk analysis					
Financial assets at fair value	133,467	4,793	155	250,100	388,515
Reinsurance assets	107,862	20	-	14,557	122,439
Cash and cash equivalents	6,422	-	-	-	6,422
	247,751	4,813	155	364,657	517,376

Insurance receivables and other receivables balances have not been impaired, based on all evidence available, and no impairment provision has been recognised in respect of these assets. Inwards premium receivables are credit controlled by third-party managers. Ark monitors third party coverholders' performance and their financial processes through the coverholder management team. A provision for doubtful debts is included within reinsurance receivables of £0.7m (2018: £1.3m).

Notes to the financial statements

2. Management of risk (continued)

Market risk

This is the risk that the value of assets and liabilities changes as a result of market movements e.g. foreign exchange rates, interest rates and market prices.

a) Foreign exchange risk

The functional currency of the Syndicate is the US dollar and the presentation currency in which the Syndicate reports its results is Sterling. Therefore the Syndicate is exposed to fluctuations in exchange rates for non-dollar denominated transactions.

The Syndicate operates in five main currencies: US dollars, Sterling, Canadian dollars, Australian dollars and Euros. The underwriting capital is matched by currency to the principal underlying currencies of its written premiums. This helps to mitigate the risk that the capital required to underwrite business is materially affected by any future movements in exchange rates.

	Sterling £'000	Euros €'000	Canadian dollars C\$'000	Australian dollars A\$'000	US dollars US\$'000	Total £'000
2019 – currency analysis						
Assets	11,581	42,025	33,444	12,430	478,859	578,339
Liabilities	68,495	33,068	24,263	11,316	449,485	586,627
Net assets / (liabilities)	(56,914)	8,957	9,181	1,114	29,374	(8,288)
2018 – currency analysis						
Assets	19,095	57,029	27,627	3,880	541,903	649,534
Liabilities	66,448	39,801	22,842	8,604	527,001	664,696
Net assets / (liabilities)	(47,353)	17,228	4,785	(4,724)	14,902	(15,162)

The table below gives an indication of the impact on profit after tax and net assets of a percentage change in the relative strength of the US dollar against the value of the main currencies, simultaneously.

	2019 Impact on profit £'000	2018 Impact on profit £'000	2019 Impact on net assets £'000	2018 Impact on net assets £'000
Sensitivity to foreign exchange risk				
USD weakens by 5% against other currencies	1,793	2,187	1,793	2,187
USD strengthens by 5% against other currencies	(1,982)	(2,417)	(1,982)	(2,417)

b) Interest rate risk

Some of the financial instruments, including certain financial assets at fair value, cash and cash equivalents and borrowings, are exposed to movements in market interest rates. Interest rate risk is managed by primarily investing in short-duration financial assets and cash and cash equivalents. The duration of assets are monitored on a regular basis. The duration of assets exposed to movements in market interest rates is 0.91 (2018: 0.81). Changes in interest rates, with all other variables constant, would result in changes in the capital value of debt securities and borrowings as well as subsequent interest receipts and payments.

	2019 Impact on profit £'000	2018 Impact on profit £'000	2019 Impact on net assets £'000	2018 Impact on net assets £'000
Sensitivity to interest rate risk				
50 basis point increase in interest rates	(405)	(876)	(405)	(876)
50 basis point decrease in interest rates	405	876	405	876

Notes to the financial statements

2. Management of risk (continued)

c) Price risk

Financial assets recognised at fair value are exposed to movements in market prices. The Syndicate does not have material exposure to price risk.

Liquidity risk

Liquidity risk arises where cash may not be available to pay obligations when they fall due without incurring unreasonable penalties or expense costs. The risk is minimised by holding sufficient liquid assets to enable large and unexpected payments, predominately claims, to be made in all but the most extreme scenarios. Ark's Catastrophe Event Response Plan provides information to quantify liquidity implications of losses, reinsurance recoveries, cashflows and trust funds in the event of a catastrophe or large loss. The process is stress tested using historic scenarios to determine the behaviour of the portfolio following an event or series of events.

	<1yr £'000	1-2yrs £'000	2-3yrs £'000	3-5yrs £'000	>5yrs £'000	Total £'000
2019 – maturity analysis						
Financial assets at fair value	317,450	16,531	14,226	7,520	1,967	357,694
Cash and cash equivalents	19,740	-	-	-	-	19,740
	337,190	16,531	14,226	7,520	1,967	377,434
2018 – maturity analysis						
Financial assets at fair value	334,705	32,277	13,700	5,437	2,396	388,515
Cash and cash equivalents	6,422	-	-	-	-	6,422
	341,127	32,277	13,700	5,437	2,396	394,937

In the above analysis, assets with no duration are included as "less than one year".

	<1yr £'000	1-3yrs £'000	3-5yrs £'000	>5yrs £'000	Total £'000	Weighted average term (years)
Net claim liability cashflow timing						
2019	121,899	128,519	68,370	59,585	378,373	2.70
2018	131,326	135,607	62,138	64,544	393,615	2.69

Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes or systems. Risks are identified within the risk register and are modelled via operational scenarios. Ark aims to minimise its exposure to operational risk by monitoring controls and management information in the form of key indicators that indicate changes to the risk profile.

Ark outsources a number of key functions, such as investment management, inwards premium credit control and human resources. This introduces the risk that the Syndicate may be exposed to liability or may fail to achieve its objectives due to inappropriately arranged, or a failure of, outsource arrangements. This risk is mitigated through pre-contract due diligence and performance review throughout the contract life cycle.

Notes to the financial statements

2. Management of risk (continued)

Ark recognises that the success of a business depends on the ability to retain the services of existing key staff and to attract and retain additional people in the future, both in underwriting and support functions. This risk is managed through the provision of sufficient education and development, support for qualifications and competitive remuneration packages.

Ark is also impacted by the risk of information technology system failure or disruption. This is mitigated through a control framework which includes network security, data, hardware and applications and is complimented by detailed planning around back-ups, contingency and disaster recovery, all of which are monitored and tested on a regular basis.

Ark has limited exposure to Brexit. Less than 5% of premiums written are based in the European Union ("EU") and in 2019, Ark commenced transacting with Lloyd's Brussels, the insurance company set up by Lloyd's to ensure syndicates can continue to access EU business. Ark continues to manage exposure to fluctuations in market value and foreign exchange and holds a limited amount of Sterling and Euro denominated assets.

Regulatory risk

Regulatory risk is the risk of censure following a breach of regulatory or legal requirements, or a failure to respond to deadlines or information requests from regulators in a satisfactory and timely manner.

Ark is regulated, overseen or required to report to the PRA, FCA, Lloyd's and other overseas regulators. Each body requires adherence to specific requirements and guidelines. In order to mitigate this, Ark seeks to conform to the regulations as they apply to each functional area. Much of this is operated through training and awareness to promote correct behaviour at source, as opposed to corrective action at a later stage. The overall risk is managed by the Compliance department which seeks to ensure that deadlines are met and changes in regulation are communicated in a timely manner.

Ark has put in place processes and controls to identify and manage the conduct risk associated with the business it underwrites. Ark will continue to lead high product risk business where risks are consistent with the probability targets taking into account the additional requirements for oversight and monitoring conduct risk.

Capital management risk

Capital is primarily required to support underwriting at Lloyd's. Lloyd's applies capital requirements at member level and centrally to ensure that Lloyd's complies with Solvency II, and beyond that to meet its own financial strength, licence and ratings objectives.

In order to meet Lloyd's requirements, each syndicate is required to calculate its Solvency Capital Requirement ("SCR") for the prospective underwriting year. This amount must be sufficient to cover a 1 in 200 year loss, reflecting uncertainty in the ultimate run-off of underwriting liabilities (SCR 'to ultimate'). The syndicate must also calculate its SCR at the same confidence level but reflecting uncertainty over a one year time horizon (one year SCR) for Lloyd's to use in meeting Solvency II requirements. The SCRs of each syndicate are subject to review by Lloyd's and approval by the Lloyd's Capital and Planning Group.

Each member of a syndicate is liable for its own share of underwriting liabilities on the syndicate(s) on which it is participating. Each member's SCR is determined by the sum of the member's share of the syndicate SCR 'to ultimate'. Where a member participates on more than one syndicate, a credit for diversification is provided to reflect the spread of risk, but consistent with determining an SCR which reflects the capital requirement to cover a 1 in 200 year loss 'to ultimate' for that member. Over and above this, an uplift is applied by Lloyd's to the member's capital requirement, known as the Economic Capital Assessment ("ECA").

3. Segmental analysis

Ark management considers that it has one segment, risks underwritten at Lloyd's in the United Kingdom.

Notes to the financial statements

4. Investment income

	2019 £'000	2018 £'000
Income on financial investments at fair value	6,500	5,473
Interest on cash and cash equivalents	1,320	1,064
Gains on the realisation of investments	5,585	1,534
Unrealised gains on investments	1,840	3,989
Losses on the realisation of investments	(1,280)	(4,011)
Unrealised losses on investments	(2,058)	(2,815)
Investment management charges	(5,064)	(1,414)
	6,843	3,820

5. Operating expenses

	2019 £'000	2018 £'000
Acquisition costs	74,661	81,904
Administrative expenses	18,673	25,378
Managing agency fee	2,250	2,331
Personal expenses	(754)	(82)
	94,830	109,531

Administrative expenses are incurred on behalf of the Syndicate by ASML. These expenses include:

	2019 £'000	2018 £'000
Audit fees, of which £65k (2018:£68k) relates to the audit of regulatory returns	179	172
Performance related pay	-	2,240

6. Directors and employees

All executive directors and staff are employed and remunerated by ASML. Staff costs are included in the management fee charged by ASML and no direct salary cost is borne by the Syndicate. Salary costs and directors remuneration are disclosed in the financial statements of ASML. The Syndicate has not been charged with any performance related remuneration paid to directors of ASML. Performance related remuneration charged to the Syndicate is set out in note 5.

	2019 £'000	2018 £'000
Emoluments of the Active Underwriters	576	374

No contributions were made to money purchases pension schemes in the year in respect of the Active Underwriters (2018: Nil).

Notes to the financial statements

7. Financial assets

	Cost 2019 £'000	Cost 2018 £'000	Value 2019 £'000	Value 2018 £'000
Financial assets at fair value:				
Shares and other variable yield securities	127,948	207,346	124,492	210,696
Debt and other fixed income securities	179,416	131,488	179,811	128,514
Participation in investment pools	34,916	30,697	34,920	30,697
Other investments	18,471	18,608	18,471	18,608
	360,751	388,139	357,694	388,515

The amount expected to mature before and after one year is:

Before one year	317,218
After one year	40,476
	357,694

The fair values of financial assets are based on prices provided by investment managers who obtain market data from numerous independent pricing services. The pricing services used by the investment manager obtain actual transaction prices for securities that have quoted prices in active markets. For those securities which are not actively traded, the pricing services use common market valuation pricing models. Observable inputs used in common market valuation pricing models include, but are not limited to, broker quotes, credit ratings, interest rates and yield curves, prepayment speeds, default rates and other such inputs which are available from market sources.

Level 1 includes fair values measured using quoted prices (unadjusted) in active markets for identical instruments. Level 2 includes fair values measured using directly or indirectly observable inputs or other similar valuation techniques for which all significant inputs are based on market observable data. Level 3 includes fair values measured using valuation techniques for which significant inputs are not based on market observable data.

The fair value of these assets is based on the prices obtained from both investment managers and investment custodians.

Fair value hierarchy:	2019 £'000	2018 £'000
Level 1	113,253	-
Level 2	244,441	388,515
Level 3	-	-
	357,694	388,515

Notes to the financial statements

8. Reinsurance assets

	2019	2018
	£'000	£'000
Reinsurers' share of claims reported	15,186	39,882
Reinsurers' share of claims incurred but not reported	22,801	46,691
Reinsurers' share of claims liabilities	37,987	86,573
Unearned premiums	15,140	15,758
	53,127	102,331

9. Deferred acquisition costs

	2019	2018
	£'000	£'000
Balance at 1 January	44,754	47,464
Additions	72,590	76,550
Amortisation charge	(74,662)	(81,904)
Foreign exchange movement	(1,248)	2,644
	41,434	44,754

10. Insurance receivables

	2019	2018
	£'000	£'000
Debtors arising out of direct insurance operations	88,905	64,319
Debtors arising out of direct reinsurance operations	12,935	35,866
	101,840	100,185

	2019	2018
	£'000	£'000
Due within one year	99,048	97,789
Due after one year	2,792	2,396
	101,840	100,185

11. Cash and cash equivalents

	2019	2018
	£'000	£'000
Cash at bank and in hand	19,740	6,422

Notes to the financial statements

12. Insurance liabilities

	2019 £'000	2018 £'000
Claims reported and loss adjustment expenses	211,673	249,222
Claims incurred but not reported	204,687	230,966
Gross claims liabilities	416,360	480,188
Unearned premiums	148,214	156,665
	564,574	636,853

Movements in insurance liabilities and reinsurance assets are as follows:

	2019 Gross £'000	2019 Reinsurance £'000	2019 Net £'000	2018 Gross £'000	2018 Reinsurance £'000	2018 Net £'000
Claims and loss adjustment expenses						
At 1 January	480,188	86,573	393,615	497,270	119,674	377,596
Claims paid	(180,972)	(27,410)	(153,562)	(223,694)	(56,822)	(166,872)
Movement arising from current years	135,751	(18,302)	154,053	181,832	20,444	161,388
Movement arising from prior years	(4,042)	-	(4,042)	3,416	-	3,416
Net exchange differences	(14,566)	(2,873)	(11,693)	21,364	3,277	18,087
At 31 December	416,360	37,987	378,373	480,188	86,573	393,615

	2019 Gross £'000	2019 Reinsurance £'000	2019 Net £'000	2018 Gross £'000	2018 Reinsurance £'000	2018 Net £'000
Unearned premiums						
At 1 January	156,665	15,758	140,907	164,229	17,194	147,035
Increase in the year	277,373	35,527	241,846	269,500	34,158	235,342
Release in the year	(281,239)	(35,444)	(245,795)	(287,347)	(34,912)	(252,435)
Net exchange differences	(4,585)	(701)	(3,884)	10,283	(682)	10,965
At 31 December	148,214	15,140	133,074	156,665	15,758	140,907

Assumptions and processes

a) The reserving process

Ark uses a quarterly process to set its reserves. Several actuarial and statistical methods are used to estimate the ultimate premium and claims costs, with the most appropriate method selected depending on the nature of each class of business. In addition, the underwriting teams review the development of the incurred loss ratio over time, work with the claims team to set reserve estimates for identified claims and utilise their detailed understanding of both risks underwritten and the nature of the claims to establish an alternative estimate of ultimate claims cost, which is compared to the actuarially established figures. The Reserving Committee then determines the reserves held for accounting purposes. An annual independent actuarial review is undertaken to ensure that the reserves established are not lower than an independently established best estimate.

Notes to the financial statements

12. Insurance liabilities (continued)

Chain-ladder techniques are applied to premiums, paid claims and incurred claims (i.e. paid claims plus case estimates). The basic technique involves the analysis of historical claims development factors and the selection of estimated development factors based on historical patterns. The selected development factors are then applied to cumulative claims data for each underwriting year that is not yet fully developed to produce an estimated ultimate claims cost for each underwriting year. The Bornhuetter-Ferguson method uses a combination of a benchmark / market-based estimate and an estimate based on claims experience. The former is based on a measure of exposure such as premiums; the latter is based on the paid or incurred claims observed to date. The two estimates are combined using a formula that gives more weight to the experience-based estimate as time passes.

The choice of selected results for each underwriting year of each class of business depends on an assessment of the technique that has been most appropriate to observed historical developments. In certain instances, this has meant that different techniques or combinations of techniques have been selected for individual underwriting years or groups of underwriting years within the same class of business. As such, there are many assumptions used to estimate general insurance liabilities.

Triangulations of the paid / outstanding claim ratios are also reviewed as a way of monitoring any changes in the strength of the outstanding claim estimates between underwriting years so that adjustments can be made to mitigate any subsequent over/(under) reserving.

Where significant large losses impact an underwriting year, the development is usually very different from the attritional losses. In these situations, the large loss total is extracted from the remainder of the data and analysed separately by the respective claims managers using exposure analysis of the policies in force in the areas affected. Further assumptions are required to convert gross of reinsurance estimates of ultimate claims cost to a net of reinsurance level and to establish reserves for unallocated claims handling expenses and reinsurance bad debt.

b) Major assumptions

The main assumption underlying these techniques is that the Syndicate's past claims development experience (with appropriate adjustments for known changes) can be used to project future claims development and hence ultimate claims costs. As such these methods extrapolate the development of premiums, paid and incurred losses, average costs per claim and claim numbers for each underwriting year based on the observed development of earlier years. Throughout, judgement is used to assess the extent to which past trends may not apply in the future; for example, to reflect changes in external or market factors such as economic conditions, public attitudes to claiming, levels of claims inflation, premium rate changes, judicial decisions and legislation, as well as internal factors such as portfolio mix, policy conditions and claims handling procedures.

The loss development tables below provide information about historical claims development by the identified operating segments. The tables are by underwriting year which in our view provides the most transparent reserving basis. The top part of the table illustrates how the estimate of the claims ratio for each underwriting year has changed at successive year ends. The bottom half of the table reconciles the gross and net claims to the amount appearing in the balance sheet. While the information in the table provides a historical perspective on the adequacy of the claims liabilities established in previous years, users of these financial statements are cautioned against extrapolating past redundancies or deficiencies on current claims liabilities. The Syndicate believes that the estimate of total claims liabilities selected is adequate. However, due to inherent uncertainties in the reserving process, it cannot be assured that such balances will ultimately prove to be adequate.

Notes to the financial statements

12. Insurance liabilities (continued)

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010 & prior
Gross	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
claims										
1 year	58,538	82,885	132,085	76,462	84,816	87,766	106,872	110,593	97,536	585,016
2 years	-	137,198	199,055	162,712	171,205	171,660	206,076	169,066	173,681	710,190
3 years	-	-	210,545	188,958	189,118	189,190	215,367	174,923	186,609	735,949
4 years	-	-	-	179,581	186,613	191,700	210,536	173,978	182,909	727,683
5 years	-	-	-	-	190,723	216,666	211,996	174,410	182,040	722,196
6 years	-	-	-	-	-	210,577	219,896	169,496	186,021	715,488
7 years	-	-	-	-	-	-	219,015	166,034	184,835	714,232
8 years	-	-	-	-	-	-	-	164,469	183,806	710,269
9 years	-	-	-	-	-	-	-	-	186,483	697,675
10 years	-	-	-	-	-	-	-	-	-	710,992

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010 & prior
Net	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
claims										
1 year	54,966	69,907	54,861	72,598	79,442	84,899	103,627	103,436	91,025	523,747
2 years	-	126,175	106,518	131,693	157,241	163,253	181,539	164,853	156,391	615,178
3 years	-	-	132,694	163,259	175,893	176,902	190,526	169,226	159,539	634,595
4 years	-	-	-	156,552	173,612	175,248	185,568	165,043	150,980	624,046
5 years	-	-	-	-	177,933	191,192	186,254	164,229	148,907	614,934
6 years	-	-	-	-	-	186,092	193,235	160,010	149,053	606,111
7 years	-	-	-	-	-	-	194,477	156,812	147,131	604,107
8 years	-	-	-	-	-	-	-	155,179	145,803	601,824
9 years	-	-	-	-	-	-	-	-	147,290	590,546
10 years	-	-	-	-	-	-	-	-	-	604,322

	Gross	Net
	All years	All years
	£'000	£'000
Total claims	2,268,121	1,935,680
Less paid claims	(1,851,761)	(1,557,307)
Total claims liabilities	416,360	378,373

On a whole account basis, the claims experience in 2019 has been better than expected based on the prior year reserves.

Notes to the financial statements

13. Reconciliation of members' balances

	2019 YOA £'000	2018 YOA £'000	2017 YOA £'000	Total £'000
2019				
At 1 January	-	(15,504)	7,230	(8,274)
Profit / (loss) for the year	(2,648)	8,274	2,735	8,361
Other recognised gains / (losses)	(621)	208	(695)	(1,108)
Distribution	-	-	(7,267)	(7,267)
At 31 December	(3,269)	(7,022)	2,003	(8,288)
	2018 YOA £'000	2017 YOA £'000	2016 YOA £'000	Total £'000
2018				
At 1 January	-	(2,754)	9,052	6,298
Profit / (loss) for the year	(15,451)	9,846	(7,186)	(12,791)
Other recognised gains / (losses)	(53)	138	412	497
Distribution	-	-	(9,166)	(9,166)
At 31 December	(15,504)	7,230	(6,888)	(15,162)

The members participate on the Syndicate by reference to YOA and the ultimate result, assets and liabilities are assessed with reference to policies incepting in that YOA in respect of their membership of a particular year.

14. Other payables

	2019 £'000	2018 £'000
Creditors arising out of direct insurance operations	745	2,831
Creditors arising out of reinsurance operations	19,461	24,914
	20,206	27,745
	2019 £'000	2018 £'000
Due within one year	20,206	27,745
Due after one year	-	-
	20,206	27,745

Notes to the financial statements

15. Movement in opening and closing portfolio investments and cash net of financing

	2019 £'000	2018 £'000
Net cash outflow for the year	13,660	(253)
Cash flow – portfolio investments	(20,121)	(59,252)
Movement arising from cash flows	(6,461)	(59,505)
Changes in market values and exchange rates	(11,042)	13,146
Total movement in portfolio investments net of financing	(17,503)	(46,359)
Balance brought forward at 1 January	394,937	441,296
Balance carried forward at 31 December	377,434	394,937

16. Movement in cash and portfolio investments

	At 1 January 2019 £'000	Cash flow £'000	Change in market value £'000	At 31 December 2019 £'000
Cash at bank and in hand	6,422	13,660	(342)	19,740
Shares and other variable yield securities	210,696	(79,100)	(7,104)	124,492
Debt and other fixed income securities	128,514	54,378	(3,081)	179,811
Participation in investment pools	30,697	4,141	82	34,920
Other investments	18,608	460	(597)	18,471
Total portfolio investments	388,515	(20,121)	(10,700)	357,694
Total cash and portfolio investments	394,937	(6,461)	(11,042)	377,434

17. Related parties

The registered office of the ultimate parent company, AIHL, is Clarendon House, 2 Church Street, Hamilton, HM11, Bermuda. The immediate parent company of ASML is Group Ark Insurance Holdings Limited ("GAIHL").

C Watson resigned as a director of Validus Holdings Limited in 2018. The Syndicates have purchased reinsurance protection on normal commercial terms and at arms length from the Validus Group. Premiums paid by the Syndicates in the year amounted to £4.2m (2018: £2.8m).

C Watson is a director of Aquiline Capital Partners LLC ("Aquiline"). The Syndicates have invested funds totalling £9.2m (2018: £4.8m) in two private equity funds managed by Aquiline.

I Beaton, N Bonnar and D Foreman are partners of Elvis Capital Partners ("ECP"). GAIHL has a contingent profit commission arrangement with ECP based on the profit after tax produced by the Syndicate operations. No profit commission accrued by GAIHL under this contract (2018: Nil).

ECP owns Mercury Capital Limited ("Mercury"), a catastrophe risk manager. During the year, Mercury provided actuarial consultancy services to GAIHL on normal commercial terms which GAIHL then recharges to ASML. The actuarial consultant, C Griffiths, was a director of AIHL in the year, resigning on 10 July 2019. Fees paid by GAIHL to Mercury in the year in respect of these services amounted to £0.1m (2018: £0.1m).

The Syndicates have made investments through Mercury in assets exposed to catastrophe insurance risk through various Industry Loss Warranty arrangements. At the year end, included within the investments of the Syndicates is £18.0m relating to these assets (2018: £22.3m). An investment loss of £3.6m (2018: gain of £2.5m) was generated by these assets in the year. No fee is paid by the Syndicates to Mercury in respect of these arrangements.

Related Parties

Notes to the financial statements

17. Related parties (continued)

The Syndicates underwrite business through Cove Program Managers Limited ("Cove") under a binding authority. Gross premium income, excluding brokerage and commissions, due to the Syndicates under this binding authority amounted to less than £0.1m (2018: £0.1m). Commissions paid by the Syndicates in the year to Cove amounted to less than £0.1m (2018: £0.1m). The Syndicates have entered into share and finance arrangements with Cove, which owns 90% of the Cove Program Underwriting cell of Aquila Underwriting LLP. The Syndicate held 14.52% of the ordinary share capital of Cove until it was sold in 2019. I Beaton served without fee as a non-executive director of Cove until 2 April 2019.

With effect from 21 October 2019 I Beaton was appointed a director of Optio, the new parent company of Cove. The Syndicates underwrite business through Ascent Underwriting LLP, a company owned by Optio. Gross premium income, less brokerage and commissions due to the Syndicates is less than £0.1m.

Ark Underwriting Inc. ("AUI") is a wholly owned subsidiary of ASML, which facilitates the introduction of US reinsurance business into the Syndicates through a binding authority. AUI earns commission set on normal commercial terms, the amount paid by the Syndicates to AUI was £0.4m (2018: £0.7m).

Accident & Health Underwriting Limited ("AHU") is a wholly owned subsidiary of GAIHL. N Brothers serves without fee as a director of AHU. The Syndicates underwrite business through AHU under a binding authority. Gross premium income, excluding brokerage and commissions, due to the Syndicates under this binding authority amounted to £5.8m (2018: £6.3m). Brokerage and commissions paid in the year by the Syndicates to AHU amounted to £3.9m (2018: £4.3m).

GAIHL is a member controlling 50% of Accident & Health Claims Services LLP ("AHC"), the other 50% being controlled by AHU. AHC provides claims handling services to the Syndicates. Fees paid in the year by the Syndicates in respect of these services amounted to £0.3m (2018: £0.3m).

I Beaton is a director of Innova Re Investment Services Limited ("IRIS"), an investment advisory company. GAIHL owns 55% of the share capital of the parent company of IRIS. ASML has entered into a contract on normal commercial terms and at arms length with IRIS for the provision of investment advisory services. Fees paid by ASML to IRIS in the year amounted to £1.8m (2018: £1.2m). The Syndicates have also paid investment charges to GAIHL of £4.1m (2018: £1.0m).

J Wardrop is a director of Starstone Underwriting Limited ("Starstone"). The Syndicates have purchased reinsurance protection on normal commercial terms and at arms length from Starstone. Premiums paid by the Syndicates in the year amounted to £1.0m (2018: £0.4m). Also, the Syndicates provided reinsurance under separate contracts to Starstone on normal commercial terms and at arms length. Gross premium income, excluding brokerage and commissions, due to the Syndicates under these contracts amounted to £0.5m (2018: £0.2m).