Pan African Resources

FY20 results and Egoli

The sun rises over Egoli's city of gold

Metals & mining

Notwithstanding COVID-19, Pan African's (PAF) normalised financial results for FY20 were materially ahead of our expectations, driven by a US$9.9m positive variance in the direct cost of production (see Exhibit 3). In consequence, the group announced a more than fivefold increase in its proposed dividend for the year in US dollar terms to a record ZAR312.9m, putting it among the top 14 dividend-paying precious metals companies globally in terms of yield (see Exhibit 15). While FY20 represented a step change in PAF's profitability compared with FY19, we believe that another step change is possible in FY21 under the influence of higher gold prices, close control of costs as new projects come on stream, a benign foreign exchange environment, a rising production profile and the maturity of all remaining hedging contracts prior to December 2020.

Year end	Revenue (US$m)	PBT* (US$m)	EPS* (c)	DPS (c)	P/E (x)	Yield (%)
06/19	218.8	37.1	1.64	0.15	17.9	0.5
06/20	274.1	80.8	3.78	0.84	7.8	2.8
06/21e	307.9	129.5	6.42	1.43	4.6	4.9
06/22	316.0	142.4	6.43	1.21	4.6	4.1

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles and exceptional items.

Egoli

During the reporting period, consultants DRA completed a feasibility study on the Egoli project (formerly the 2010 Pay Channel underground at Evander) and the project has subsequently been approved by Pan African's board. The feasibility study demonstrated a post-tax $NPV_{10.71}$ of US$131.25m (6.8c/share) and a post-tax IRR of 50.1% for a mine producing 90.1koz gold pa at steady state (see Exhibit 9) for a peak funding requirement of ZAR1.2bn and ongoing opex of ZAR1,787/t at a gold price of US$1,650/oz. As a result of the sanctioning of this project, we estimate that PAF's group output will increase from an estimated 190,818oz in FY21e to 284,509oz in FY25e, with all funding for the project being provided by Rand Merchant Bank in the form of debt.

Valuation: Steady at 40.48c (31.31p) per share

In the wake of its FY20 results, our absolute valuation of PAF has remained steady, at 40.48c (cf 31.31p) per share based on its four main currently producing assets plus Egoli. To this must then be added the value of c 19.2m underground Witwatersrand ounces, which we estimate could lie anywhere in the range of 0.22–5.24c per share, depending on market conditions. As an alternative means of valuation, if PAF's historical average price to normalised EPS ratio of 9.1x in the period FY10–20 is applied to our FY21 forecasts, then it implies a share price potentially as high as 45p in the current financial year. In relative terms, Pan African remains cheaper than its South Africa- and London-listed gold mining peers on at least 63% of common valuation measures if our forecasts are used, or 76% if consensus forecasts are used. In the meantime, on the basis of its FY20 dividend, PAF is among the 14 top dividend-paying precious metals companies globally. Based on our forecasts for FY21, we believe that this could improve to within the top 10 (see Exhibit 15).

14 October 2020

Price	**22.70p**
Market cap	**£507m**

ZAR21.3431/£, ZAR16.5113/US$, US$1.2929/£

Net debt (US$m) at end June 2020 excluding estimated ZAR16.9m (US$1.0m) of MC Mining shares (formerly Coal of Africa)	55.7
Shares in issue*	2,234.7m
*Effective 1,928.3m post-consolidation	
Free float	86%
Code	PAF
Primary exchange	AIM/JSE
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	(5.4)	8.9	97.1
Rel (local)	(5.0)	11.2	134.8
52-week high/low		27.1p	9.0p

Business description

Pan African Resources has three major producing precious metals assets in South Africa: Barberton (target output 95koz Au pa), the Barberton Tailings Retreatment Project, or BTRP (20koz), and Elikhulu (55koz), now incorporating the Evander Tailings Retreatment Project, or ETRP (10koz).

Next events

AGM	26 November 2020
Ex-dividend LSE date	3 December 2020
Dividend payment date	15 December 2020
H121 results	February 2021

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Edison profile page

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FY20 and H220 production and highlights

A summary of the output of Pan African's assets during the year, including the production in H220 implied by FY20 and H120 numbers, is provided in the table below.

Exhibit 1: PAF production, FY16–20 (oz)

Operation	FY16	FY17	H118	H218	FY18	H119	H219	FY19	H120	H220	H220/H120 (%)	FY20
Barberton UG	84,690	71,763	32,159	40,966	73,125	38,550	36,806	75,356	36,737	31,392	-14.5	68,129
BTRP	28,591	26,745	8,452	9,052	17,504	12,006	12,001	24,007	10,619	9,516	-10.4	20,135
Barberton	**113,281**	**98,508**	**40,611**	**50,018**	**90,629**	**50,556**	**48,807**	**99,363**	**47,356**	**40,908**	**-13.6**	**88,264**
Evander UG	73,496	43,304	32,734	15,831	48,565	8,821	8,058	16,879	11,553	9,117	-21.1	20,670
ETRP	18,151	29,473	11,937	9,313	21,250	6,345	3,654	9,999	4,731	6,176	+30.5	10,907
Evander	**91,647**	**72,777**	**44,671**	**25,144**	**69,815**	**15,166**	**11,712**	**26,878**	**16,284**	**15,293**	**-6.1**	**31,577**
Elikhulu	0	0	0	0	0	15,292	30,909	46,201	29,301	30,315	+3.5	59,616
Total	**204,928**	**173,285**	**85,282**	**75,139**	**160,444**	**81,014**	**91,428**	**172,442**	**92,941**	**86,516**	**-6.9**	**179,457**

Source: Edison Investment Research, Pan African Resources. Note: Numbers may not add up owing to rounding. *Estimated. UG = underground.

While H220 production overall was 6.9% lower than in H120, FY20 production was nevertheless higher than a) in the previous year, b) updated company guidance (May 2020) and c) our prior expectations. Self-evidently, this performance was achieved during the period in which the most severe coronavirus-related lockdown restrictions were in place in South Africa. Within this context, output at PAF's Barberton underground mine was particularly notable, outperforming the updated guidance by 4,129oz (or 6.5%) and our forecast for the year by 3,225oz (or 5.0%):

Exhibit 2: Pan African FY20 production cf guidance and Edison forecasts

Production asset	Prior (pre-coronavirus) company guidance (oz)	March 2020 Edison forecast* (oz)	Updated guidance (oz)	May 2020 Edison forecast (oz)	FY20 actual (oz)	FY20a vs updated guidance (%)
BTRP	20,000	20,619	21,000	21,000	20,135	-4.1
Elikhulu	65,000	65,199	59,000	58,992	59,616	+1.0
Barberton underground	80,000	77,737	64,000	64,904	68,129	+6.5
Evander underground & tolling	20,000	27,053	31,000	31,000	31,577	+1.9
Total	**185,000**	**190,608**	**175,000**	**175,896**	**179,457**	**+2.5**

Source: Pan African Resources, Edison Investment Research. Note: Totals may not add up owing to rounding. *See our note, H120 confirms FY20 forecasts, published on 2 March 2020.

H220 and FY20 results vs forecasts

The table overleaf presents PAF's H220 and FY20 results relative to both historic results and also our prior expectations (albeit within the context of known production from each of its assets). Among other things, readers are reminded that production from Evander's 8 Shaft Pillar project was capitalised until June, when steady-state production was achieved, whereas our forecasts assumed that 100% of Evander underground production and costs were expensed in the period.

From Exhibit 3, it may be seen that, while normalised earnings and profit after tax were within 5% of our prior expectations, Pan African outperformed Edison's underlying expectations (as measured by normalised headline earnings per share (HEPS), which excludes other income and expenses – ie zero cost collar losses – in particular) by a material 26.8% in FY20. In crude terms, while other expenses (ie zero cost collar losses) were US$17.3m worse than our prior expectations, this was approximately balanced by costs of production which were US$9.9m better, net finance costs which were US$1.6m better and a tax charge which was US$2.9m better. Excluding other expenses therefore, normalised headline earnings were US$15.3m (approximately the sum of US$9.9m, US$1.6m and US$2.9m), or 26.7%, ahead of our prior forecasts.

Exhibit 3: PAF P&L statement by half-year (H119–H220) actual cf forecast

US$000s (unless otherwise indicated)	H119	H119 (restated)	H219 (implied)	FY19	H120	H220e	FY20e	H220	FY20	FY20a/ FY20e (%)
On-mine revenue	96,699	97,531	121,287	218,818	132,849	141,387	274,236	141,258	274,107	0.0
Cost of production	(70,162)	(70,847)	(82,133)	(152,980)	(86,501)	(81,882)	(168,384)	(71,956)	(158,457)	-5.9
Depreciation	(6,861)	(6,840)	(9,388)	(16,228)	(10,526)	(11,826)	(22,353)	(10,977)	(21,503)	-3.8
Mining profit	19,676	19,844	29,767	49,611	35,821	47,679	83,500	58,325	94,146	12.7
Other income/(expenses)	(1,812)	(2,077)	(5,181)	(7,258)	(962)	(10,444)	(11,405)	(27,720)	(28,682)	151.5
Loss in associate etc	0	0	0	0	0	0	0	0	0	
Loss on disposals	0	0	0	0	0	0	0	0	0	
Impairments	0	0	17,854	17,854	109	0	109	(20)	89	-18.3
Royalty costs	(518)	(474)	120	(354)	(208)	(371)	(579)	(266)	(474)	-18.1
Net income before finance	17,346	17,293	42,559	59,852	34,761	36,864	71,624	30,319	65,079	-9.1
Finances income	388	443	407	850	207			258	465	
Finance costs	(5,696)	(5,699)	(7,343)	(13,042)	(7,760)			(5,587)	(13,346)	
Net finance income	(5,307)	(5,256)	(6,936)	(12,192)	(7,553)	(6,958)	(14,511)	(5,329)	(12,881)	-11.2
Profit before taxation	12,039	12,037	35,623	47,660	27,208	29,905	57,113	24,990	52,198	-8.6
Taxation	(2,330)	(2,325)	(5,850)	(8,174)	(5,303)	(5,548)	(10,850)	(2,602)	(7,905)	-27.1
Marginal tax rate (%)	19.4	19.3	16.4	17.2	19.5	29.2	19.0	10.4	15.1	-20.5
PAT (continuing ops)	9,709	9,712	29,774	39,486	21,906	24,358	46,263	22,388	44,293	-4.3
Loss from discontinued ops	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Profit after tax	9,709	9,712	29,774	39,486	21,906	24,358	46,263	22,388	44,293	-4.3
Headline earnings	9,709	9,712	14,586	24,298	21,742	24,358	46,100	22,416	44,158	-4.2
Est. normalised headline earnings		11,789	19,766	31,556	22,704	34,801	57,505	50,136	72,840	+26.7
EPS (c)	0.50	0.50	1.54	2.05	1.14	1.26	2.40	1.16	2.30	-4.2
HEPS* (c)	0.50	0.50	0.76	1.26	1.13	1.26	2.39	1.16	2.29	-4.2
Normalised HEPS (c)	0.60	0.61	1.03	1.64	1.18	1.80	2.98	2.60	3.78	26.8
EPS from continuing ops (c)	0.50	0.50	1.54	2.05	1.14	1.26	2.40	1.16	2.30	-4.2

Source: Pan African Resources, Edison Investment Research. Note: As reported basis. *HEPS = headline earnings per share (company adjusted basis).

On the basis that our prior normalised HEPS forecast of 2.98c/share compared with a consensus EPS forecast of 2.72p/share, within a range 2.39–3.04p/share (source: Refinitiv, 27 July 2020), we would infer that actual FY20 results were also materially ahead of consensus forecasts.

In addition, it should be noted that, over the full year, Pan African sold 5,593oz gold less than it produced, implying, among other things, that it sold 3,254oz less than it produced in H220, adding to the 2,339oz less that it sold in H120. At the average gold price received during the year (US$1,574/oz), we estimate that this could have added an additional c US$8.8m to revenue.

Operations

Barberton underground (38% of production; 35% of adjusted EBITDA)

Barberton recorded its highest adjusted EBITDA number since H117 in H120 and easily covered capex of ZAR107.0m, despite facing challenging geological conditions at Fairview and the need to put enhanced security initiatives in place to curtail illegal mining activities. Notwithstanding the challenging operating environment in H220 (January to June), Pan African was successful in increasing both tonnes milled from underground and surface sources to their highest (combined) level since at least H111 – albeit, to some extent, at the expense of the head grade, which declined by 18.4%, from 7.54g/t to 6.15g/t. In particular, the worst depredations of the coronavirus were mitigated by: a) increased reserve delineation drilling on the 256 platform of the high-grade MRC orebody at Fairview in order to increase confidence in, and predictability of, management's geological models, b) Barberton's ability to mill ore from surface sources (requiring a lower complement of workers) and c) its ability to focus on higher-grade areas of the orebody after the establishment of the 257 platform, thereby allowing three platforms to cycle (flexible) production on the MRC. The improved flexibility, resulting from accelerated underground development programmes, has now increased the face length available for mining to over 130m. At the 257 platform alone, geological mapping and reserve delineation drilling have identified a mineralised width in excess of 15m (cf the usual 7m width ordinarily encountered on the upper platforms). In the meantime, management is in the process of establishing the 258 platform some 25m below the 257 platform, which is scheduled to enter production in Q221, at which point Barberton/Fairview will have four platforms to cycle high-grade (flexible) production on the MRC.

At the same time, costs were also extremely well controlled, with unit operating costs declining 14.7% in H220 in local currency terms (cf H120), to ZAR3,238/t – the lowest since H116. Aggregate costs in US dollar terms were the lowest since H216, with the result that adjusted EBITDA increased by 27.8% in H220 relative to H120, compared with only an 11.5% increase in the US dollar price of gold.

Exhibit 4: Barberton underground operational statistics and estimates, H116–H220

	H117	H217	H118	H218	H119	H219	H120	H220e	H220	H220a vs H220e (%)	FY20
Tonnes milled underground (t)	123,168	123,747	124,969	112,862	127,858	119,777	117,545	84,130	116,035	+37.9	233,580
Head grade underground (g/t)	9.40	10.20	8.70	12.07	9.60	9.88	9.70*	10.59	8.79*	-17.0	9.25
Underground gold contained (oz)	37,224	40,574	34,956	43,803	39,463	38,052	36,648	28,645	32,791	+14.5	69,439
Tonnes milled surface (t)	0	0	0	0	12,471	33,158	47,231	78,879	56,593	-28.3	103,824
Head grade surface (g/t)	0.00	0.00	0.00	0.00	2.30	1.62	2.16*	2.16	0.73*	-66.2	1.38
Surface gold contained (oz)	0	0	0	0	922	1,729	3,283	5,483	1,331	-75.7	4,614
Tons milled (t)	123,168	123,747	124,969	112,862	140,329	152,935	164,776	163,009	172,628	+5.9	337,404
Head grade (g/t)	9.40	10.20	8.70	12.07	8.95	8.09	7.54	6.51	6.15	-5.5	6.83
Contained gold (oz)	37,224	40,574	34,956	43,803	40,386	39,780	39,932	34,128	34,122	-0.0	74,053
Recovery (%)	93.0	91.9	93.0	93.5	94.0	92.5	92.0	92.5	92.0	-0.5	92.00
Production underground (oz)	34,471	37,292	32,159	40,966	37,735	35,129	36,737	31,565	31,392	-0.5	68,129
Production calcine dumps/surface ops (oz)	0	0	0	0	815	1,677	0	0	0	0.0	0
Total production (oz)	34,471	37,292	32,159	40,966	38,550	36,806	36,737	31,565	31,392	-0.5	68,129
Recovered grade (g/t)	8.70	9.37	8.00	11.29	8.54	7.49	6.93	6.02	5.66	-6.0	6.28
Gold sold (oz)	34,471	37,292	32,159	40,966	37,829	37,527	36,737	31,565	31,392	-0.5	68,129
Average spot price (US$/oz)	1,268	1,239	1,288	1,317	1,220	1,306	1,477	1,647	1,647	0.0	1,585
Average spot price (ZAR/kg)	570,251	526,341	554,361	521,029	556,770	596,180	698,031	882,504	882,504	0.0	798,287
Total cash cost (US$/oz)	967	940	1,145	981	996	1,097	1,159	1,242	1,053	-15.2	1,110
Total cash cost (ZAR/kg)	434,999	399,081	492,826	390,220	454,164	500,214	547,594	665,734	572,432	-14.0	559,016
Total cash cost (US$/t)	270.74	283.19	294.62	356.03	268.42	269.10	258.39	240.59	191.44	-20.4	224.13
Total cash cost (ZAR/t)	3,787.00	3,740.66	3,945.00	4,405.46	3,860.00	3,817.67	3,797.00	4,009.60	3,237.70	-19.3	3,510.84
Implied revenue (US$000)	43,709	46,640	41,421	53,057	46,151	49,325	54,261	51,988	53,724	+3.3	107,984
Implied revenue (ZAR000)	611,400	616,296	554,499	660,698	655,098	699,398	797,598	866,419	893,997	+3.2	1,691,595
Implied revenue (£000)	34,207	37,008	31,422	38,722	35,652	38,120	43,061	41,237	42,614	+3.3	85,675
Implied cash costs (US$000)	33,347	35,043	36,819	40,182	37,667	41,155	42,576	39,218	33,047	-15.7	75,623
Implied cash costs (ZAR000)	466,437	462,895	493,003	497,209	534,400	583,855	625,654	653,600	558,918	-14.5	1,184,573
Implied cash costs (£000)	26,091	27,814	27,900	29,269	29,102	31,803	33,796	31,183	26,203	-16.0	59,999
Reported adjusted EBITDA (ZAR000)	240,300	168,300	72,300	174,700	137,200	140,700	205,100		262,200		467,300

Source: Pan African Resources, Edison Investment Research. Note: *Estimated.

Elsewhere, development towards the down-dip extension of the ZK orebody has commenced on 62 Level at Fairview, while development relating to the PC Shaft project at the Consort mine was completed in May, during which time initial sampling revealed grades in excess of 300g/t (approximately 10oz/t) and contributed towards a proved mineral reserve of 5,000t at an average grade of 25g/t (approximately 1oz/t). Production from high-grade resource blocks is expected to reduce all-in sustaining costs (AISC) to a target level of US$1,200/oz and to ensure future profitability at the Consort mine over a life of an additional three years. Concurrently, drilling has commenced on priority targets, while advanced techniques are being employed for the generation of new exploration targets for potential future production.

Elikhulu (33% of production; 68% of adjusted EBITDA)

In contrast to much of the South African gold mining industry, where the challenges of COVID-19 have been well documented, Elikhulu has proved to be one of the unsung heroes, with a performance in H220 that was better than both H120 and our prior expectations in all respects, with the single exception of metallurgical recovery (which was nevertheless approximately the anticipated annual average over the life of the mine on a full-year basis after an excellent H120 and regarding which a degree of moderation was inevitably expected). At the same time, the new satellite pump station that was commissioned at the end of 2019 with a view to increasing plant feed grades and rates for the remainder of the financial year was clearly successful. As a result, whereas we calculated that Elikhulu accounted for 47% of H120 adjusted EBITDA and 68% of FY20 adjusted EBITDA, we also estimate that it was responsible for 91% of H220 adjusted EBITDA.

Exhibit 5: Elikhulu operational statistics and estimates, H119–H220

	H119	H219	H120	H220e	FY20e	H220	FY20
Tonnes processed tailings (t)	3,534,278	7,313,931	6,211,028	6,465,767	12,676,795	6,882,546	13,093,574
Head grade tailings (g/t)	0.30	0.26	0.28*	0.30	0.29	0.32	0.30
Tailings gold contained (oz)	34,089	60,199	56,348	63,383	119,731	70,494	126,843
Recovery (%)	44.0	51.3	52.0	47.8	49.8	43.0	47.0
Production tailings (oz)	15,292	30,909	29,301	30,278	59,579	30,315	59,616
Total production (oz)	15,292	30,909	29,301	30,278	59,579	30,315	59,616
Recovered grade (g/t)	0.13	0.13	0.15	0.15	0.15	0.14	0.14
Gold sold (oz)	15,292	30,173	29,301	30,278	59,579	30,315	59,616
Average spot price (US$/oz)	1,216	1,306	1,451	1,647	1,551	1,647	1,565
Average spot price (ZAR/kg)	563,250	596,180	685,680	882,504	786,683	882,504	788,510
Total cash cost (US$/oz)	517	575	621	562	590	495	554
Total cash cost (ZAR/kg)	239,639	262,650	293,608	300,933	297,341	265,166	279,155
Total cash cost (US$/t)	2.24	2.43	2.93	2.63	2.78	2.15	2.52
Total cash cost (ZAR/t)	32.00	33.70	43.00	43.83	43.47	36.33	39.53
Implied revenue (US$000)	18,595	39,009	42,516	49,868	92,384	50,783	93,299
Implied revenue (ZAR000)	267,899	554,999	624,898	831,093	1,455,991	837,196	1,462,094
Implied revenue (£000)	14,365	30,145	33,740	39,556	73,296	40,283	74,023
Implied cash costs (US$000)	7,912	17,742	18,209	17,005	35,214	14,818	33,027
Implied cash costs (ZAR000)	114,000	246,492	267,600	283,402	551,002	250,023	517,623
Implied cash costs (£000)	6,208	13,421	14,455	13,521	27,976	11,784	26,239
Adjusted EBITDA (ZAR000)	145,100	296,300	333,100			564,000	897,100

Source: Pan African Resources, Edison Investment Research. Note: *Estimate.

Capex at Elikhulu will increase in FY21 as it transitions from Phase 1 of its operations (the re-mining of Kinross tailings) to Phase 2 (the re-mining of Leslie and Bracken tailings), necessitating the installation of approximately 6km of piping and a pump station between the plant and the areas to be mined. However, this was no less than was expected at the time that Elikhulu entered production and, at ZAR127m in FY21, will easily be covered by adjusted EBITDA (estimated at a record ZAR564m in H220 alone).

Evander underground (12% of production; 7% of underlying adj. EBITDA)

While superficially the most affected of Pan African's operations by coronavirus, in fact comparison between Evander underground's performance in H220 and FY20 relative to prior periods is rendered almost impossible by the fact that the 8 Shaft Pillar project reached steady-state in May and that, therefore, revenues and costs from the project prior to that point were capitalised, rather than expensed, which accounts for the apparent discrepancy in Exhibit 6 between ‘contained gold’, production and ‘gold sold’ (among other things). Separately, production from the 8 Shaft Pillar project was reported to be 1,096oz in May and 3,152oz in June to make a total of at least 4,248oz during the period under review. On the basis of the underlying operational statistics provided, however, it can be seen that the remnant mining and vamping activities operated at slightly above break-even, at a 13.9% gross margin with costs well controlled and, in the event, very close to our prior H220 forecast of ZAR5,670/t. Readers should note that the apparent discrepancy between gross cash profits and the large negative adjusted EBITDA figure implied in H220 may be attributed to ‘other’ expenses, being the zero cost collar contract losses alluded to elsewhere in this note, the majority of which (US$24.8m out of a total of US$28.7m) related to operations at Evander. On an underlying basis, Evander underground had an LBITDA of ZAR280.7m (see Exhibit 6) after ZAR413.7m of hedging losses, ie it had an underlying EBITDA of ZAR133.0m. On the same basis, Pan African as a whole reported EBITDA of ZAR1,328.4m after ZAR478.0m in hedging losses, ie it had an underlying EBITDA of ZAR1,806.4m. On an underlying (as opposed to headline) basis therefore, Evander underground contributed 7% of PAF’s EBITDA.

Exhibit 6: Evander operational statistics and estimates, H119–H220

	H119	H219	H120	H220e	FY20e	H220	FY20	H121e	H221e	H122e
Tonnes milled (t)	37,347	26,624	30,044	43,125	73,169	21,392	51,436	69,000	69,000	62,100
Head grade (g/t)	7.82	10.01	12.59*	7.74	9.73	5.16	9.50	7.67	8.74	8.13
Contained gold (oz)	9,384	8,572	12,161	10,733	22,894	3,549	15,710	17,007	19,388	16,224
Recovery (%)	94	94	95	98	96	94	96	98	98	98
Underground production (oz)	8,821	8,058	11,553	10,518	22,071	9,117	20,670	16,667	19,000	15,900
Production from surface sources (oz)	0	0	0	0	0	0	0			
Total production (oz)	8,821	8,058	11,553	10,518	22,071	9,117	20,670	16,667	19,000	15,900
Recovered grade (g/t)	7.35	9.41	11.96	7.59	9.38	13.26	9.10	7.51	8.56	7.96
Gold sold (oz)	8,821	8,058	9,214	10,518	19,732	5,863	15,077	16,667	19,000	15,900
Average spot price (US$/oz)	1,214	1,306	1,451	1,647	1,555	1,647	1,542	1,819	1,749	1,749
Average spot price (ZAR/kg)	565,367	596,180	685,658	882,504	790,586	882,504	776,637	977,603	928,415	928,415
Total cash cost (US$/oz)	1,711	1,814	1,420	1,395	1,575	1,241	1,328	961	994	989
Total cash cost (ZAR/kg)	780,357	828,170	671,299	747,435	711,911	665,209	668,927	516,578	527,456	524,776
Total cash cost (US$/t)	404.07	549.62	546.00	340.22	424.71	169.14	389.27	232.17	273.60	253.11
Total cash cost (ZAR/t)	5,733	7,796	6,404	5,670	5,971	5,671	6,099	3,881	4,517	4,179
Implied revenue (US$000)	10,709	10,525	13,370	17,323	30,693	9,879	23,249	30,317	33,229	27,808
Implied revenue (ZAR000)	155,115	146,084	196,499	288,706	485,205	167,699	364,199	506,777	548,658	459,140
Implied revenue (£000)	8,272	8,134	10,610	13,741	24,351	7,836	18,446	23,455	25,701	21,508
Implied cash costs (US$000)	15,091	14,633	16,404	14,672	31,076	3,618	20,022	16,020	18,878	15,718
Implied cash costs (ZAR000)	214,100	207,564	192,402	244,519	436,921	121,306	313,708	267,788	311,706	259,524
Implied cash costs (£000)	11,659	11,301	10,393	11,666	22,059	5,509	15,902	12,395	14,605	12,160
Adjusted EBITDA (ZAR000)	-58,985	26,085	64,900			(345,600)	(280,700)			

Source: Pan African Resources, Edison Investment Research. Note: *Estimate.

Operationally, shaft tower construction was completed between 14 and 16 Levels and all eight underground stoping crews at Evander have now been migrated over to the 8 Shaft Pillar project. Henceforward, management expects Evander underground to contribute, on average, 30,000oz of production pa to the group over the next three financial years at an AISC of c US$1,000/oz and therefore at materially higher margins than the previous remnant underground mining and vamping operations.

Critical to the success of the 8 Shaft Pillar project is the requirement to de-stress the orebody while mining is underway, to which end Pan African has already commissioned a grout plant at surface with the ability to pump a mixture of concrete and waste rock underground to selectively support areas of the orebody. At a recent site visit to the 8 Shaft Pillar project at the time of the South African Mining Indaba in February, attended by Edison, the short distance between the shaft bottom and the stoping areas was immediately apparent (ie 10 minutes – in sharp contrast to PAF's previous operations at 24 Level at 8 Shaft, which had an approximate 100-minute commute to the working faces). In addition, the working faces are close to an intake airway (negating the need for refrigeration) and the ore will only need to be handled about four times before reaching surface (cf 22 times previously) and will require only c 4km of tramming (cf c 14km previously). This last point is significant since Evander has a high percentage of fine gold in its ore and, historically, it has been estimated that up to 1% of this gold has been lost per kilometre of distance trammed. This combination of fewer transport points and systems is therefore anticipated to have a materially beneficial effect not only on the operation's cost base (see Exhibit 6), but also on its mine call factor. The other aspect of the visit that was very apparent was the development in technology around pillar mining and especially the use of pseudo-packs and rapid reaction pit props (rather than matt packs) for 'intelligent' rather than passive ground support – thereby de-risking the operation from both an environmental, social and governance (ESG) and a financial perspective.

Other

Pan African's other two currently producing operations, the BTRP and the ETRP, accounted for 11% and 6% of the group's annual production and 14% and 4% of its adjusted annual EBITDA, respectively.

Egoli – next out of the blocks

In addition to its existing five producing operations, the next project that PAF has confirmed it will develop is Egoli (formerly the 2010 Pay Channel) underground at Evander.

The Egoli orebody is c 1.75km in tramming distance from No 7 Shaft at Evander, which is currently used to hoist run-of-mine material from the No 8 Shaft Pillar project to the Kinross metallurgical plant. Following dewatering, standard footwall development, further deepening of the decline and on-reef development and associated engineering will be required before mining can commence.

An optimised mining feasibility study on the project was completed at the end of 2019 and this has now been reviewed by consultants DRA and its own independent feasibility study completed. A summary of the salient conclusions of the study is as follows:

- Life-of-mine gold produced 17,771kg (570,000oz) at an average recovered grade of 5.21g/t and an AISC of ZAR399,600/kg (US$777/oz).
- A post-tax IRR of 50.1% and a post-tax $\text{NPV}_{10.71}$ of ZAR2,010m or US$131.25m (equivalent to ZAR1.042 or 6.8 US cents per share, respectively) at a gold price of ZAR850,000/kg (US$1,650/oz).
- A 3.8-year payback period from inception.

While superficially comparable to former underground operations at Evander 8 Shaft, however, there are a number of important differences, which are summarised below:

Exhibit 7: Egoli vs former 8 Shaft operating parameters

Parameter	Egoli	Former 8 Shaft operations
Depth	1,900m	~2,500
Access	Directly from 7 Shaft (twin shaft) with one decline	Vertical access via 8 Shaft, mid-shaft hoisting, cross tramming to 7 Shaft via series of declines
Tramming/travelling distance	c 1.75km from No. 7 shaft	13km
Transfer points	6	20
Waste and reef	Separate waste and reef handling	Waste and reef combined – thereby limiting ability to develop and diluting grade
Head grade (g/t)	6.64	5.7
Mine call factor	85%	73.5%
Employees	~800 employees	1,800 employees plus 500 contractors

Source: Pan African Resources

As with the 8 Shaft Pillar project, the lower number of transport points and systems is significant given that a high percentage of gold in the Evander ore is in the form of fine gold, which is otherwise estimated to be lost at a rate of 1% per kilometre of tramming distance.

While the same project as previously conceived by Edison, nevertheless some of the assumptions and parameters associated with the project have changed since our last note on PAF (see Back to where it belongs, published on 28 July 2020). A summary of the principal changes is as follows:

Exhibit 8: Egoli project parameter changes

Parameter	Updated	Previous
Throughput (ktpa)	521ktpa	257ktpa
Recovered grade (g/t)	6.36g/t	8.28g/t
Steady-state production (oz pa)	90.1koz	65.0koz
Costs (ZAR/t)	Cash costs ZAR1,787/t	AISC ZAR2,360/t
Peak funding requirement (ZARm)	ZAR1,161m	ZAR870m
Capital intensity (US$ per annual steady-state oz production)	US$780/oz	US$810/oz
Life of mine (years)	8yrs	14yrs
Start	CY22/FY23	CY22/FY22

Source: Pan African Resources, Edison Investment Research.

Of note is the average level of expected cash costs of ZAR1,787/t over the life of the mine. While this may seem low relative to ZAR6,099/t for the remnant mining and vamping at 8 Shaft reported in FY20 and also the average ZAR3,838/t expected by Edison over the course of the next two and a half years at the 8 Shaft Pillar project, it is very much in line with the ZAR1,403/t steady-state average reported between H113 and H215 for the original 8 Shaft project.

The peak funding requirement of the project is estimated, in the feasibility study, to be ZAR1.05bn (US$66m) and – consistent with its requirement for non-dilutionary funding – Pan African has now obtained credit approval from Rand Merchant Back (RMB) for the full debt funding of the project's capital expenditure in two phases:

- The first phase entails a tranche of ZAR400m (for which RMB has provided the full commitment) to de-water the number 7 Shaft decline, equip the decline and shaft and conduct the initial mine development.
- The second tranche of ZAR800m will be utilised to fund the balance of the project's development over the remaining term of the two and a half year construction period.

As a result, Pan African has mandated DRA Global, in its capacity as consultants, to complete the detailed project scheduling and planning. It has also now commenced preliminary refurbishment of the relevant project infrastructure in Q121 in the expectation of placing long-lead equipment orders in Q221 and starting underground de-watering and equipping in Q321.

First gold is expected to be produced approximately 20 months after construction commences, with ramp up to steady-state production over the following 16 months. Whereas we had previously valued Egoli on the basis of our estimate of project NPV at a 10% discount rate, we have now formally modelled it into our group earnings and cash flow statement on the basis of the following operating parameters over the next 10 years:

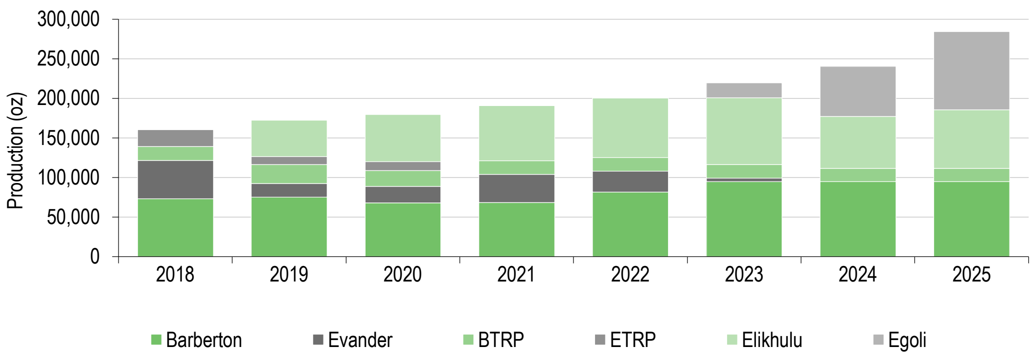
Exhibit 9: Egoli assumed operating parameters by financial year

Parameter	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
Tonnes mined (kt)	0	0	283.5	432.6	584.9	562.8	513.1	512.9	478.1	206.2
Grade mined (g/t)			3.30	6.08	6.91	6.74	6.20	6.45	7.02	7.24
Contained gold (koz)	0	0	30.1	84.5	129.9	122.0	102.4	106.4	107.9	48.0
Tonnes milled (kt)	0	0	198.0	399.2	550.3	550.1	513.1	512.9	478.1	206.2
Recovered grade (g/t)			2.99	4.91	5.58	5.44	5.01	5.21	5.67	5.84
Gold produced (koz)	0	0	19.0	63.1	98.7	96.2	82.7	85.9	87.1	38.7
Opex costs (ZAR/t)	0	0	1,540	1,837	1,739	1,702	1,762	1,791	1,837	1,973
Capex costs (ZARm)	250.2	490.6	420.2	298.6	182.4	130.2	103.3	68.0	31.2	0.0
Capex costs (US$m)	15.1	29.7	25.5	18.1	11.1	7.9	6.3	4.1	1.9	0.0

Source: Pan African Resources, Edison Investment Research.

In the immediate future, we estimate that the inclusion of Egoli into Pan African's portfolio of producing assets will increase group production from an estimated 190,818oz in FY21 to 284,509oz in FY25, as follows:

Exhibit 10: Estimated Pan African group gold production, FY21e-FY25e (including Egoli)



Source: Edison Investment Research, Pan African Resources.

Readers should note that the above mine plan in Exhibit 9 excludes an additional c 1.95Moz of inferred resources that will be accessed as underground development proceeds, with the potential to increase Egoli's mine life from eight to 14 producing (financial) years.

Debt service and covenant compliance guarantees

Pan African's philosophy towards hedging is to hedge only specific and material exposures arising from operational risks, capital investments and transactional flows that can adversely affect the group's sustainability. Hedges are short-dated and limited to a maximum of 25% of the group's estimated annual production unless additional exposure is specifically approved by the board of directors. In the case of FY20, the board considered that volatility in the rand price of gold combined with the group's US$15.9m in debt redemption commitments warranted managing the group's gold price risk more fully and therefore the decision was taken to increase hedge levels to approximately 50% of guided production for the year.

As a result, Pan African had two forms of hedging contracts in place in H220 for the purposes of guaranteeing debt serviceability and covenant compliance. The first was a gold loan of 10,000oz (of which 5,000oz remained outstanding as at end FY20) that locked in a gold price of approximately US$1,325/oz (ZAR709,969/kg at average forex rates during H220). The second was a series of zero cost collar contracts over 50,460oz gold in H220 that capped the gold price received by Pan African at ZAR836,000/kg (c US$1,560/oz at average forex rates), but also floored it at ZAR655,000/kg (c US$1,222/oz).

In the event, the gold price averaged ZAR882,504/kg during H220 (Edison calculation) and peaked at ZAR1,063,715/kg – implying a loss during the period of between ZAR46,504/kg and ZAR227,715/kg over the contracted 50,460oz gold, or ZAR73.0-357.4m in aggregate (US$4.4-21.4m at average forex rates). Within this range, Edison's considered loss estimate was US$10.4m – albeit this estimate was based solely on realised losses and excluded the amortised cost of the options. In the event, Pan African reported a mark-to-market fair value loss of US$22.0m during the full year comprising realised losses of US$12.0m (note: realised losses in H1 were ZAR29m, or US$2.0m at average forex rates) and unrealised losses of US$10.0m.

As at 30 June 2020, Pan African had zero cost collar hedges over 50,000oz gold with an average floor price of ZAR708,000/kg and a ceiling price of ZAR925,829/kg, which will be delivered in H121. Thereafter, it will be unhedged. With due regard for the accuracy of our hedging loss forecasts in H220, our forecast for the same number in FY21 (albeit using a slightly different methodology) is as follows:

Exhibit 11: Estimated Pan African hedging contract losses in H121

	H120	H220	FY20	H121e
Gold loan				
Ounces	10,000	5,000		5,000
Price (US$/oz)	1,325	1,325		1,325
Notional sales revenue (US$000's)	13,250	6,625		6,625
Spot price of gold (US$/oz)	1,477	1,647		1,819
Notional loss (US$000's)	(1,520)	(1,610)	(3,130)	(2,470)
Zero cost collar				
Ounces	29,550	50,460		50,000
Written call exercise price (ZAR/kg)	666,000	836,000		925,829
Forex (US$/ZAR)	17.3512	16.6659		16.7158
Equivalent US$/oz price of gold	1,194	1,560		1,723
Loss per oz (US$)	(283)	(87)		(96)
Notional loss (US$000's)	(8,367)	(4,379)	(12,746)	(4,817)
Total notional loss (US$000's)	(9,887)	(5,989)	(15,876)	(7,287)
Reported loss (US$000's)				
Realised	(2,000)	(10,000)	(12,000)	
Unrealised			(10,000)	
Total			(22,000)	

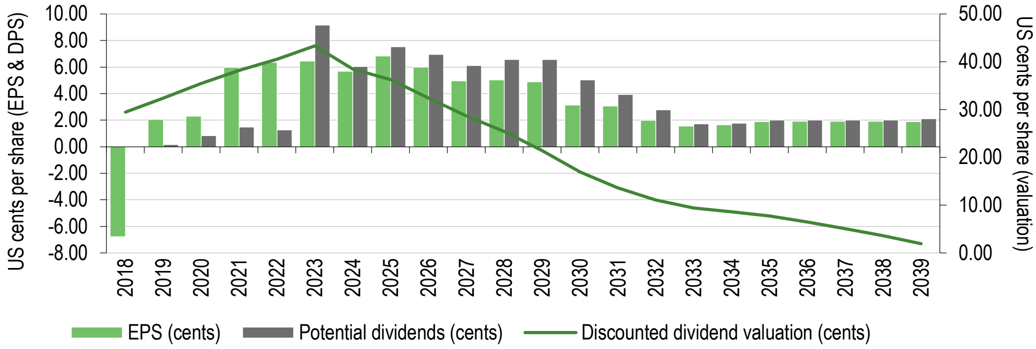
Source: Edison Investment Research, Pan African Resources.

Our estimated loss of US$7.3m in H121 (Exhibit 11) is included in our estimate of 'exceptionals' in Exhibit 22. Note that the above estimates are based on a gold price of US$1,819/oz in H121 and may differ materially to the extent that the gold price exceeds this level – even on an intra-day basis. However, since all options and the gold loan expire in H121, all losses should be 'realised' with no 'unrealised' component to consider. Again, however, for reasons of practicality, these estimates exclude the amortised cost of the options.

Updated valuation

Assuming a forex rate of ZAR16.5113/US$ for the remainder of the year and a (relatively conservative) short-term (real) gold price of US$1,819/oz in H121 and US$1,749/oz in H221, followed by a flat long-term (nominal) gold price of US$1,892/oz (consistent with our last note and also A golden future, published on 11 June), our absolute value of PAF (based on its existing four producing assets plus Egoli) has risen to 39.03c/share (cf 34.18c/share previously – albeit not including Egoli), on the basis of the present value of our estimated maximum potential stream of dividends payable to shareholders over the life of its mining operations (applying a 10% discount rate):

Exhibit 12: PAF estimated life of operations' diluted EPS and (maximum potential) DPS*



Source: Pan African Resources, Edison Investment Research. Note: *From FY23. Excludes discretionary exploration investment.

Including its other potential growth projects (eg the Fairview sub-vertical shaft project) and assets (ie the residual Evander underground resource and its shareholding in MC Mining), our updated total valuation of Pan African is barely changed compared with that in July, as follows:

Exhibit 13: PAF absolute valuation summary

Project	Current valuation (cents/share)	Previous valuation (cents/share)
Existing producing assets (including Egoli)	38.19	32.66
FY20 dividend	0.84	1.52
Egoli		6.41
Fairview Sub-Vertical Shaft project	1.00	0.91
Royal Sheba (resource-based valuation)	0.40	0.59
MC Mining shares	0.06	0.05
Sub-total	**40.48**	**42.14**
EGM underground resource*	0.22-5.24	0.22–5.24
Total	**40.70-45.72**	**42.36–47.38**

Source: Edison Investment Research. Note: *Excluding Evander and Egoli.

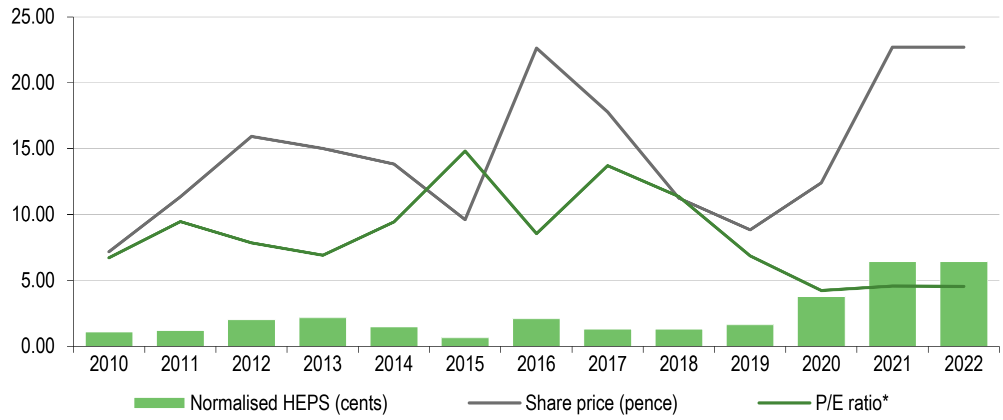
Note that the increase in the value of PAF's shareholding of 13.1m MC Mining shares relative to our previous valuation in July reflects merely the rise in the latter's share price from ZAR1.25/share to ZAR1.38/share currently (adjusted into US dollars at the appropriate forex rate).

Historical relative and current peer group valuation

Historical relative valuation

Exhibit 14, below, depicts PAF's average share price in each of its financial years from FY10 to FY20, and compares this with normalised HEPS in the same year. For FY21 and FY22, the current share price (of 22.70p) is compared with our forecast normalised HEPS for FY21 to FY22. As is apparent from the graph, PAF's price to normalised HEPS ratio of 4.6x for FY21 and FY22 (based on our forecasts – see Exhibit 22, below) is only fractionally above the very bottom of its recent historical range of 4.2–14.8x for the period from FY10–20:

Exhibit 14: PAF historical price to normalised HEPS ratio, FY10–FY22e**



Source: Edison Investment Research. Note: *Completed historical years calculated with respect to average share price within the year shown and normalised HEPS; zero normalisation assumed before 2016. **HEPS shown in pence prior to 2018 and US cents thereafter.

Stated alternatively, if PAF's average contemporary price to normalised EPS ratio of 9.1x in the period FY10–20 is deemed 'correct' then, given our normalised earnings forecasts, its share price may be expected to be c 45p in FY21 and FY22.

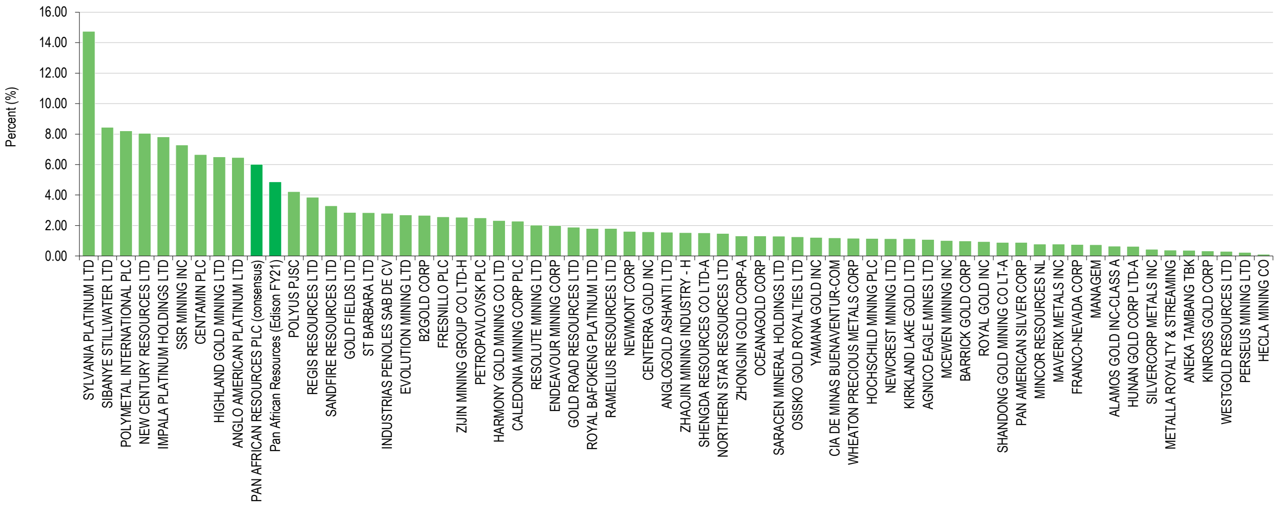
Note that, within this context, our normalised FY21 HEPS forecast of 6.42 US cents compares with a consensus forecast of 5.62c, within a range 4.78–6.47c (source: Refinitiv, 8 October 2020).

Dividend

PAF has reiterated its dividend policy of having a target dividend payout ratio of 40% of net cash generated by operating activities (after allowing for the effect of sustaining capital on cash flow, contractual debt repayments and one-off items). After sustaining the costs related to the Evander underground closure in FY18, the Pan African board elected not to recommend a final dividend for that year. However, it stated that recommencing distributions to shareholders was a priority for the future. This was achieved in FY19 when the board recommended a final dividend of ZAR50m, or c US$3.4m, which equated to ZAR0.022375 or c 0.11725p or 0.15179 US cents per share and which it described as a 'signal' of its intent to resume more meaningful distributions to shareholders in the future. In FY20, the dividend was duly increased materially (ie 5.5x) – in this case, to a record of ZAR312.9m, or 0.83582 US cents per share. While this was less than our most extravagant forecast of 1.52c/share (see Back to where it belongs, published on 28 July 2020), it mainly reflected actual versus anticipated changes in working capital, which were not as positive as we had forecast over the period in question. To the extent that there was a shortfall compared with our expectations in FY20 however, this merely sets the company up for further increases in the dividend pay-out in FY21 and beyond, notwithstanding an increased capex profile as a result of the development of the Egoli project (see our forecasts in Exhibit 9). Otherwise, the FY20 dividend was strongly in line with our prior two forecasts, of 0.86c and 0.72c in March and May, respectively.

Based on its current share price, Pan African boasts a dividend yield of 2.8%, on which basis it ranks number 14 of the 63 dividend-paying precious metal companies over the course of the next 12 months. This rises to nearly 5% and a rank within the top 10 dividend paying precious metals on the basis of both consensus and Edison FY21 forecasts (see Exhibits 15 and 16):

Exhibit 15: Global precious metal mining companies ranked by forecast dividend yield, PAF highlighted (%)



Source: Refinitiv for peers and PAF (consensus), Edison Investment Research for PAF FY21. Note: Consensus data for peers priced 7/8 October 2020.

Relative peer group valuation

Over the next two years PAF remains cheaper than its South Africa- and London-listed gold mining peers on at least 63% of comparable common valuation measures (19 out of 30 individual measures in the table below) if Edison forecasts are applied or 76% if consensus forecasts are applied:

Exhibit 16: Comparative valuation of PAF with South African and London peers

	EV/EBITDA (x)		P/E (x)		Yield (%)	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
AngloGold Ashanti	5.2	4.1	9.9	6.8	1.1	1.7
Gold Fields	6.2	4.4	17.2	8.9	1.7	3.1
Sibanye	3.6	2.5	5.7	3.8	5.3	9.1
Harmony	3.0	2.2	5.2	3.8	2.0	2.9
Centamin	4.2	3.3	12.8	10.1	6.5	7.1
Average (excluding PAF)	**4.4**	**3.3**	**10.1**	**6.7**	**3.3**	**4.8**
PAF (Edison)	4.0	3.5	4.6	4.6	4.9	4.1
PAF (consensus)	3.2	2.9	3.8	4.0	7.2	3.6

Source: Edison Investment Research, Refinitiv. Note: Consensus and peers priced at 7 October 2020.

Financials

Including its liabilities to non-financial institutions, PAF had net debt of US$55.7m on its balance sheet as at 30 June 2020 (cf US$130.7m as at 31 December), which equates to a gearing ratio (net debt/equity) of 30.3% and a leverage ratio (net debt/[net debt+equity]) of 23.3% (cf 64.8% and 39.3% as at end December 2019, respectively). This figure includes gross debt and cash and is reflected in our financial summary (see Exhibit 22, below); however, it excludes a number of other items, the majority of which reflect the value of hedging contracts, rather than conventional indebtedness. A full reconciliation of the various contributors to Pan African's net debt as at end-FY20 is nevertheless as follows:

Exhibit 17: Pan African FY20 net debt, by type (US$m)

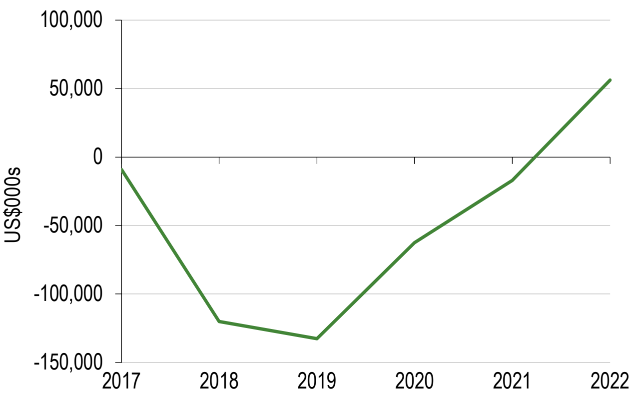
Type	US$m
Gross debt	89.2
Cash	33.5
Net debt (sub-total)	**55.7**
Restricted cash	0.4
Gold loan	5.7
Less refinance adjustment	(0.3)
Arranging fees	0.5
Sub-total	**62.0**
Derivative financial liability	9.6
IFRS 16 lease	4.5
Instalment sale liability	0.3
Sub-total	**76.4**

Source: Pan African Resources

Within this context, the reported decline in net debt to US$62.0m as at end-June 2020 cf US$130.7m as at end-December represents a decline of US$68.7m, or 52.6%, in the space of just six months and implies average net cash inflows of approximately US$11.5m per month. Maintaining this rate of net cash inflow would imply that Pan African could be net debt free as early as December 2020 (excluding dividend pay-outs).

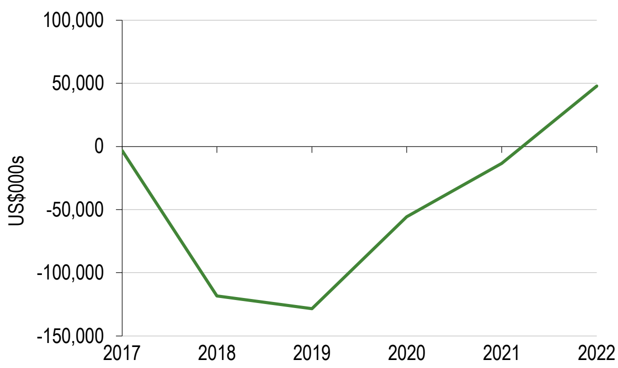
However, while capex relating to Elikhulu has fallen to (effectively) zero in H220, we are now expecting it to be replaced by capex relating to the Egoli project (see Exhibit 9). Although this will slow the rate of debt repayment relative to our previous expectations, all other things being equal, we continue to forecast that the company will achieve net debt free status during the FY22 financial year (NB on a post-FY21 dividend basis – see below):

Exhibit 18: PAF previous estimated net debt profile forecast, FY17 to FY22e (US$000)



Source: Edison Investment Research, Pan African Resources

Exhibit 19: PAF current net debt profile forecast, FY17 to FY22e (US$000)



Source: Edison Investment Research, Pan African Resources

Debt is principally financed via a US$46.2m term loan facility plus a US$43.3m revolving credit facility and a US$8.1m general banking facility. Principal on the Elikhulu facility is payable in equal instalments until maturity in June 2024, while the revolving credit facility (RCF) has a maturity beyond mid-2024. The group's RCF debt covenants and their actual recorded levels within recent history are as follows:

Exhibit 20: PAF group debt covenants

Measurement	Constraint	FY20	H120	FY19 (actual)	H119 (actual)	FY18* (actual)	H118 (actual)	FY17 (restated)
Net debt:equity	Must be less than 1:1	0.4	0.6	0.71	0.85	0.78	0.19	0.02
Net debt:EBITDA	Must be less than 2.5:1 falling to 1.5:1 by December 2022	0.7	1.6	2.2	3.24	3.73	2.25	0.08
Interest cover ratio	Must be greater than 4 times rising to 5.1 times by December 2022	10.1	5.8	4.1	3.64	4.61	4.62	19.32
Debt service cover ratio	Must be greater than 1.3:1	3.4	3.0	1.4	2.85	3.84	1.85	9.11

Source: Pan African Resources. Note: *Subsequently restated.

Potential future organic growth

In addition to Egoli and the 8 Shaft Pillar project, Pan African has three other near-term organic growth projects, namely the Fairview sub-vertical shaft project (adding 7–10koz to production pa), which is already in development, the Royal Sheba project (c 30koz pa), and the extraction of the Prince Consort shaft pillar (3,900–7,800oz pa), which is also in development. It also has one solar plant initiative to help regulate its electricity supply at Elikhulu, one large-scale agriculture project at Barberton and a number of new agriculture projects on rehabilitated land at Evander.

Royal Sheba

At the same time that it approved the Evander 8 Shaft Pillar project, PAF concluded that it would not pursue mining the near-surface Royal Sheba resource on a standalone basis, but that it will instead upgrade the existing Barberton Mines processing plant infrastructure to take Royal Sheba ore. Development of the orebody will be in two phases:

- Phase 1: via an existing adit to exploit the upper levels of the orebody using long-hole open stoping at a capital cost of US$3–4m.
- Phase 2: developing the lower levels of the orebody from the Sheba side at 23 Level at a capital cost of c ZAR30m (US$1.8m at current forex rates).

At the same time, the Dibanisa project – scheduled to be completed in FY21 – will integrate Sheba and Fairview infrastructure, such that Fairview will be able to accommodate Royal Sheba ore. One of the immediate advantages of this will be that additional available shaft time will assist with the development and mining of Royal Sheba. Once in production, the Sheba plant will be available to process both surface material and Royal Sheba uppers (ie Phase 1). Tailings from the Royal Sheba operation will then be available for processing via BTRP infrastructure in addition to the latter's traditional sources. Among other things, this method of development will help to expedite the environmental licensing process, shorten the timeline to production, enhance returns and negate the need for external capital funding. Development of Royal Sheba will extend operations at Sheba by 10 years to 19 years in total. In addition, optimised usage of infrastructure is also anticipated to reduce AISC to c US$1,000/oz (management estimate). Design has been completed for the early extraction of the western block in Phase 1 (above the historical workings). In the meantime, a preliminary economic assessment for Phase 2 is underway. Management has indicated that it would require an internal rate of return in excess of 20% in order to proceed with the project. In this event, it anticipates that it would take approximately one year to open and develop the orebody, such that mining of the uppers (Phase 1) would commence in approximately March 2021 and the mining of the lowers (Phase 2) in about September 2021.

Prince Consort shaft pillar extraction

Despite historically being the highest grading operation at Barberton, the Consort mine has recently also become one of its highest cost operations. In order to address this, management has determined on an immediate initiative to mine the Prince Consort (PC) Shaft pillar, which boasts a mineral resource of 48.82kt at a grade of 25.54g/t (0.82oz per tonne, or opt), containing 40koz gold. At the same time, it will explore the 36 exploration targets that have been identified at New Consort for potential future exploitation.

The orebody was intersected in early May (only one month later than planned, despite coronavirus) and development into the first target block on Level 42 was completed in June, with assayed grades as high as 300g/t (approximately 10oz/t) being reported, including large amounts of visible gold. Since then, New Consort has outperformed its gold production targets by more than 60% (or 11kg/354oz) in the two months after access was gained into the target block and, having achieved steady-state, the operation is now poised to produce at a rate of 3,900–7,800oz pa at a targeted AISC of c US$1,200/oz over a period of approximately three years. In addition to underground ore, additional material from surface stockpiles at Consort will maximise and extend plant capacity.

Elikhulu solar power plant

While Pan African is less exposed to load-shedding than its deep level South African peers by virtue of 52% of its gold being derived from tailings and other surface sources (FY20 Edison estimate) and its having spare plant capacity in general, recent outages have nevertheless had a disruptive effect on operations at Elikhulu. In mitigation, management has completed a bankable feasibility study on a 10MW solar plant at Evander (actually 9.99MW so as to avoid the need for NERSA[1] regulatory approval), which was positive and the board has subsequently given its approval for the project to be developed. The solar plant will supply approximately 30% of Elikhulu's power requirements and will reduce its dependence on both grid power and electricity price inflation (which was 13.9% as a result of regulatory price increases in FY20). Note that none of these potential benefits are yet incorporated into Edison's financial model on, and valuation of, Pan African. An engineering, procurement and construction management (EPCM) contract for the construction of the solar plant has been awarded and PAF is currently in the process of finalising the necessary legal and contractual agreements for the project, as well as raising the dedicated funding in a fashion that is non-dilutive for PAF shareholders. In due course, the project will also generate carbon credits for Pan African. It may also be replicated at Barberton.

South African national lockdown

South Africa detected its first new coronavirus infection on 5 March. In the following few weeks, the epidemic followed a typical exponential curve and on 15 March, the country's president, Cyril Ramaphosa, declared a national state of emergency, banning visitors from high-risk countries, stopping large gatherings, closing more than half of its land borders and shutting schools. On 23 March, the South African government made the decision to lock down the country for all but 'essential services'. On 14 April, it extended the lockdown by two weeks, until 30 April. As an adjunct, however, from 16 April, it allowed underground mining operations to return to 50% capacity from a position of care and maintenance, albeit observing strict health protocols. From 1 May, surface operations were able to return to 100% capacity. Underground mines were required to remain at 50% capacity, albeit subject to the discretion of the mining and energy minister, Gwede Mantashe, who had the authority to sanction production above this level.

As far as Pan African was concerned, during the lockdown 'essential services' included security, pumping and ventilation activities, metallurgical plant maintenance, inspection of underground workings, management and monitoring of tailings deposition facilities, waste management and water treatment facilities and other health and safety-related services. As part of essential services, the group undertook to conduct limited surface re-mining and processing activities at its Elikhulu

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Tailings Retreatment Plant and at its Barberton Tailings Retreatment Plant. As a result, during the lockdown, Pan African's group surface mining operations operated at c 70% of normal capacity, while Barberton Mines resumed limited operations at certain high-grade sections of its Fairview operation in order to ensure the required minimum feed for its BIOX processing plant. Of the group's total staff and contractor complement, only 26% (excluding security staff) were involved in essential services. The South African Department of Mineral Resources & Energy (DMRE) approved all of the group's activities during the period, subject to compliance with, and adherence to, all relevant laws and regulations. Following the easing of lockdown regulations, tailings operations ramped up to full capacity by 1 May 2020, while underground operations were conducted at c 50% of capacity from 27 March until 31 May.

As soon as the lockdown was announced, Pan African suspended its erstwhile production guidance of 185,000oz for FY20. However, on 11 May, it provided an indication of output for its assets for the full year of 176,000oz on the assumption that surface retreatment plants operated at or close to capacity for the remainder of the year and underground mines operated at 50% of capacity. In the event, it produced 179,457oz, with most of the outperformance attributable to operations at Barberton (see Exhibit 2).

The situation now

Initially, as the South African lockdown began to ease, coronavirus cases began to increase rapidly, reaching nearly 14,000 new cases in July, with the epicentre of the epidemic shifting away from Cape Town to Johannesburg. As seasonal weather patterns have shifted however and South Africa has entered its warmer months, from September to March, the number of new daily cases has dropped sharply, from almost 14,000 per day to around 1,000 new cases per day currently.

At the time of writing, the number of cases of COVID-19 in South Africa has increased to 695,000 of whom 18,028 have died. Among other things, this suggests a steadying of the mortality rate at 2.6% cf 2.9% globally and 6.8% in the UK. In part, this may be attributed to South Africa's relatively youthful population (average age 26.4 years cf average African age 19.7 years and average UK age 40). Whatever the reason however, at the time of writing, the official death toll in South Africa continues to remain an order of magnitude below other badly affected countries (albeit with the proviso that not all deaths may be being captured in the official figures).

Pan African

Pan African has containment and compliance measures in place at all of its operations, including a group COVID-19 steering committee that has been established to enforce and monitor awareness, risk mitigation and prevention strategies. It also undergoes regular DMRE audits.

As at 30 June 2020, PAF had only two positive cases of coronavirus among its workforce complement of c 4,500. As at 14 September, it reported the following coronavirus-related statistics among its personnel:

Exhibit 21: Pan African COVID-19 dashboard

Business centre	Positive	Active	Quarantine	Hospitalisation	Hospitalisation recovery	Recovery rate (%)
Barberton	64	6	0	5	4	91
Evander	29	1	0	0	0	97
Pan African	**93**	**7**	**0**	**5**	**4**	**92.5**

Source: Pan African Resources

Exhibit 22: Financial summary

US$'000s	2018	2019	2020	2021e	2022e
Year end 30 June	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS					
Revenue	145,829	218,818	274,107	307,883	316,019
Cost of sales	(107,140)	(152,980)	(158,457)	(152,913)	(146,967)
Gross profit	38,689	65,838	115,650	154,969	169,052
EBITDA	38,131	65,484	115,176	153,552	164,506
Operating profit (before GW and except.)	31,506	49,256	93,673	134,555	143,589
Intangible amortisation	0	0	0	0	0
Exceptionals	(16,521)	10,596	(28,593)	(8,905)	(1,618)
Other	0	0	0	0	0
Operating profit	14,985	59,852	65,079	125,649	141,971
Net interest	(2,222)	(12,192)	(12,881)	(5,015)	(1,195)
Profit before tax (norm)	29,284	37,064	80,791	129,540	142,394
Profit before tax (FRS 3)	12,763	47,660	52,198	120,635	140,776
Tax	2,826	(8,174)	(7,905)	(5,709)	(18,338)
Profit after tax (norm)	32,110	28,890	72,887	123,831	124,056
Profit after tax (FRS 3)	15,589	39,486	44,293	114,926	122,437
Average number of shares outstanding (m)	1,809.7	1,928.3	1,928.3	1,928.3	1,928.3
EPS - normalised (c)	1.31	1.64	3.78	6.42	6.43
EPS - FRS 3 (c)	0.87	2.05	2.30	5.96	6.35
Dividend per share (c)	0.00	0.15	0.84	1.43	1.21
Gross margin (%)	26.5	30.1	42.2	50.3	53.5
EBITDA margin (%)	26.1	29.9	42.0	49.9	52.1
Operating margin (before GW and except.) (%)	21.6	22.5	34.2	43.7	45.4
BALANCE SHEET					
Fixed assets	315,279	361,529	314,968	351,333	384,183
Intangible assets	56,899	49,372	43,466	45,710	47,955
Tangible assets	254,247	305,355	270,286	304,406	335,011
Investments	4,134	6,802	1,216	1,216	1,216
Current assets	29,009	31,601	53,648	109,439	131,494
Stocks	4,310	6,323	7,626	10,271	10,543
Debtors	22,577	18,048	11,245	21,948	22,530
Cash	922	5,341	33,530	75,973	97,174
Current liabilities	(44,395)	(63,855)	(78,722)	(83,356)	(37,915)
Creditors	(37,968)	(39,707)	(62,806)	(67,440)	(61,999)
Short-term borrowings	(6,426)	(24,148)	(15,916)	(15,916)	24,084
Long-term liabilities	(152,906)	(145,693)	(106,276)	(106,385)	(107,573)
Long-term borrowings	(112,827)	(109,618)	(73,333)	(73,333)	(73,333)
Other long-term liabilities	(40,078)	(36,076)	(32,943)	(33,052)	(34,241)
Net assets	146,988	183,582	183,620	271,031	370,189
CASH FLOW					
Operating cash flow	5,345	59,822	73,399	127,119	160,828
Net Interest	(6,076)	(14,685)	(10,834)	(5,015)	(1,195)
Tax	(1,634)	(4,497)	(5,804)	(5,600)	(17,150)
Capex	(127,279)	(52,261)	(30,849)	(55,361)	(53,767)
Acquisitions/disposals	6,319	466	207	0	0
Financing	11,944	(0)	0	(0)	0
Dividends	(11,030)	(2,933)	(2,933)	(18,700)	(27,515)
Net cash flow	(122,411)	(14,088)	23,186	42,444	61,201
Opening net debt/(cash)	3,138	118,332	128,424	55,719	13,275
Exchange rate movements	(619)	537	1,663	0	0
Other	7,836	3,459	47,856	0	0
Closing net debt/(cash)	118,332	128,424	55,719	13,275	(47,925)

Source: Company sources, Edison Investment Research

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