Deutsche Beteiligungs

New investments ahead

Investment companies

Deutsche Beteiligungs (DBAG) is making steady progress on its investment agenda, with three new acquisitions and several follow-on funding rounds totalling €40.2m completed in Q119. DBAG's Fund VII has so far been able to allocate 56% of its investment commitments in six transactions, reflecting solid portfolio ramp-up. DBAG expects to launch its successor fund by FY21. The current high proportion of relatively new investments in DBAG's portfolio calls for a more medium-term perspective when examining the company's future performance prospects.

12 months ending	Share price (%)	NAV (%)	LPX Europe (%)	LPX Europe NAV (%)	SDAX (%)	FTSE All Share (%)
31/01/15	33.3	15.6	20.3	15.4	8.8	17.0
31/12/15*	14.6	15.1	14.0	7.5	18.9	0.3
31/12/16	4.8	8.5	10.3	7.5	4.6	0.8
31/12/17	60.7	22.3	18.9	13.2	24.9	8.8
31/12/18	(26.4)	(0.9)	(12.3)	7.9	(20.0)	(10.5)

Source: Refinitiv. Note: *11-month period due to change in financial year end. Discrete rolling total return performance in euros up to last reported NAV.

Steady deployment of investing commitments

Following the high number of disposals in FY17 and steady capital deployment since the start of investment periods for DBAG Fund VII and DBAG ECF, the company's current portfolio is relatively young, with 51% of capital invested representing investments held for less than two years at end FY18. This leads to a more conservative outlook for FY19 while providing more promising medium-term prospects. DBAG expects to make new co-investments of c €94m per year over the next three years. Moreover, it expects to launch a new MBO fund by end of FY21. Assets under management have remained broadly flat since Q416 at c €1.8m, but with a higher proportion of already allocated capital (63% at Q119 vs 38% in Q416).

Market multiples affect portfolio value

DBAG's Q119 NAV per share was down 5.1% to €28.05 vs end-September 2018 after a positive 6.9% return in FY18 on a dividend-adjusted basis. The Q119 decrease was largely due to the capital markets downturn, especially towards the end of the year, which translated into reduced earnings multiples of listed peers used to value the majority of DBAG's investment portfolio (69% at end-December 2018). Subsequently, the German market has rebounded with the DAX ytd return at c 10%. With more acquisitions than exits likely in the near term, lower valuation levels create more opportunities than threats in our view.

Valuation: 4.3% yield and 21% premium to NAV

DBAG's shares have traded in a broad corridor of 10–30% premium to NAV over the last 12 months. In our view, this premium is largely attributable to the market-implied value of the fund services business. DBAG currently trades at a 21.2% premium to end-December 2018 NAV, which implies an LTM earnings multiple of the fund services business at 21.2x (if we assume a discount in line with the broader market represented by the LPX Europe Index). DBAG's shares currently offer a dividend yield of c 4.3% vs the peer average of 3.6%.

21 March 2019

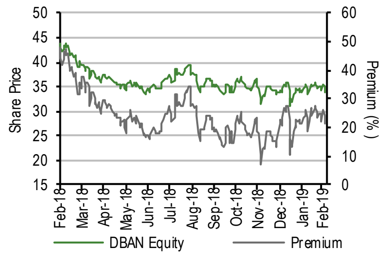
Price	**€34.00**
Market cap	**€511m**
NAV*	**€422m**

NAV per share*	€28.05
Premium to NAV	21.2%

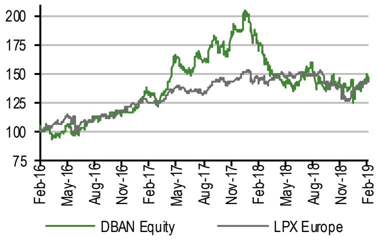
* As at 31 December 2018.

Yield	4.3%
Ordinary shares in issue	15.0m
Code	DBAN
Primary exchange	Frankfurt
AIC sector	Private equity
Benchmark	N/A

Share price/discount performance



Three-year performance vs index



52-week high/low	€43.65	€31.05
NAV/share high/low	€29.50	€28.05

Gearing

Gross*	0.0%
Net cash*	21.8%

* As at 31 December 2018.

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Edison profile page

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Exhibit 1: Deutsche Beteiligungs at a glance

Investment objective and fund background

DBAG is a Germany-based and listed private equity investment and fund management company that invests in mid-sized companies in Germany and neighbouring German-speaking countries via MBO transactions and growth capital financings. There is a focus on growth-driven profitable businesses valued between €50m and €250m. DBAG's core objective is to sustainably increase net asset value.

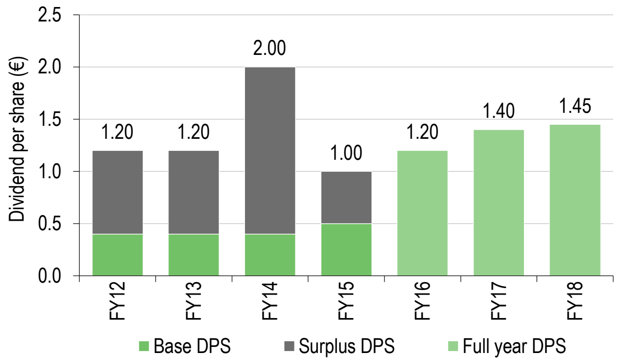
Recent developments

- 21 February 2019: AGM votes €1.45 DPS
- 7 February 2019: Q118/19 results – NAV 1Y TR -0.9% vs LPX Europe NAV TR +7.9%.
- 29 January 2019: DBAG ECF sold its investment in PSS.
- 21 January 2019: DBAG acquires radiology practice to Ranova network.

Forthcoming		Capital structure		Fund details	
AGM	February 2020	FY18 net expense ratio*	0.0%	Group	Deutsche Beteiligungs
Interim results	14 May 2019	Net cash	21.8%**	Manager	Team managed
Year end	30 September	Annual mgmt fee	N/A (self-managed)	Address	Boersenstrasse 1
Dividend paid	26 February	Performance fee	N/A (self-managed)		60313 Frankfurt am Main, Germany
Launch date	December 1985	Company life	Unlimited	Phone	+49 69 95787-01
Continuation vote	N/A	Loan facilities	€50m (undrawn)	Website	www.dbag.com

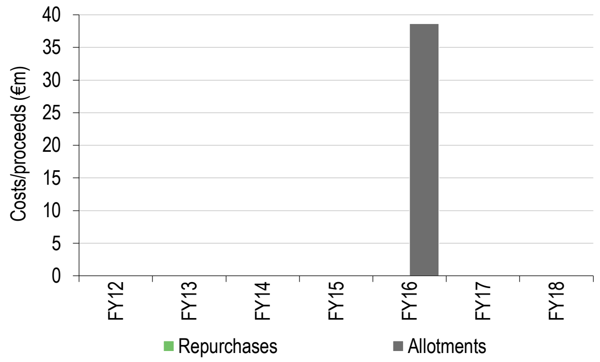
Dividend policy and history (financial years)

DBAG's policy is to pay a stable or rising annual dividend. Prior to FY16, a base dividend was paid, supplemented by a surplus dividend based on realised gains.

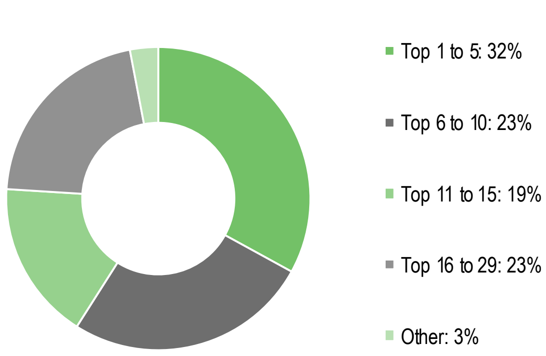


Share buyback policy and history (financial years)

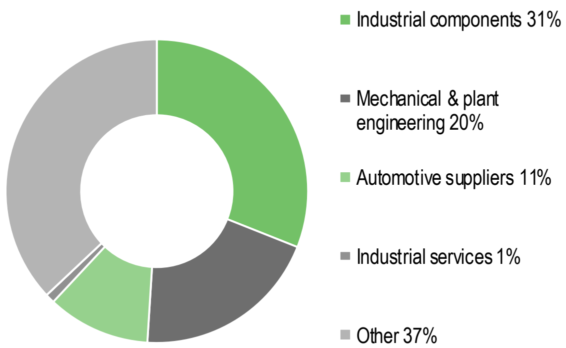
Share buybacks and capital increases are used to manage longer-term capital requirements. In FY16, €38.6m was raised through a 10% capital increase.



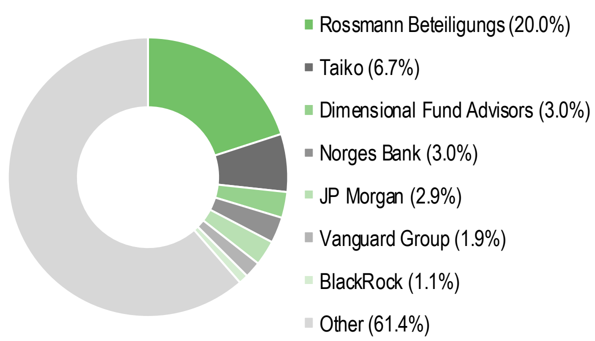
Concentration of portfolio value by size (as at 31 December 2018)***



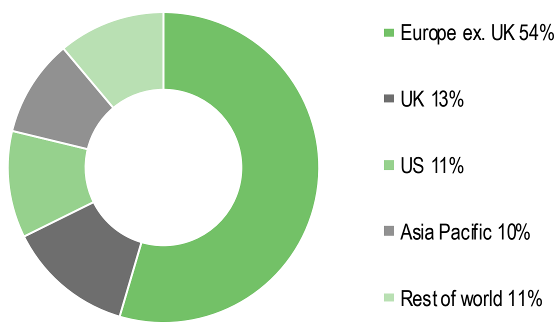
Portfolio exposure by sector (as at 31 December 2018)***



Shareholder base (latest available data)



Portfolio companies' revenues by region (latest available data)



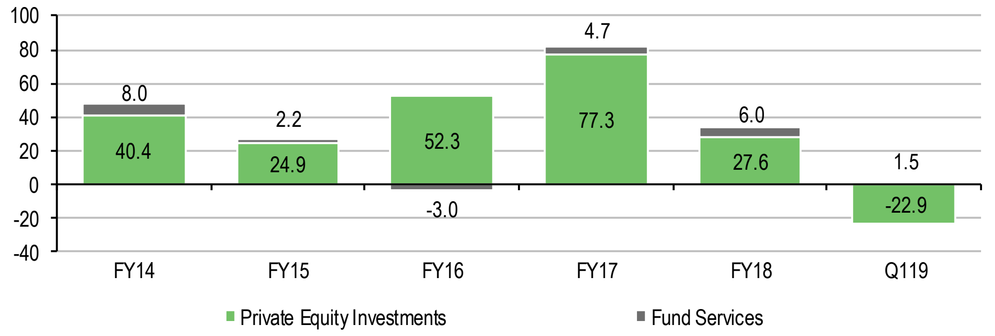
Source: DBAG, Edison Investment Research, Bloomberg, Refinitiv. Note: *Based on expenses net of fee income; adjusted for non-recurring items. **Including €27.1m of securities classified as long-term assets. ***Does not include co-investment funds.

Financial results

Delivering long-term gains despite short-term volatility

The results of DBAG's Private Equity Investments segment (which contributed over 90% to group profit before tax on average in the last five years) are driven by realised gains from portfolio exits, but also to a large extent by unrealised gains/losses on portfolio valuation changes, which are partly dependent on developments in capital markets. This is because c 40–70% of DBAG's portfolio is usually valued based on market multiples. The record results seen in FY17, when the segment delivered a PBT of €77m (see Exhibit 2), were achieved as a result of six exits (at an unweighted average cash multiple of 3.9x and translating into €82m of valuation gains). Subsequently however, results have been more muted due to less favourable market conditions and a limited number of exits, as DBAG's focus has shifted towards portfolio additions. In FY18, the segment delivered a PBT of €28m due to improving business prospects in portfolio companies (translating into a €37m portfolio value increase) with a minor positive net impact of €3m as a result of changes in valuation multiples. Lower market multiples following a significant fall in equity markets at the end of 2018 resulted in a €48m drop in the value of DBAG's portfolio attributable to changes in valuation multiples. This resulted in a PBT loss of c €23m in Q119.

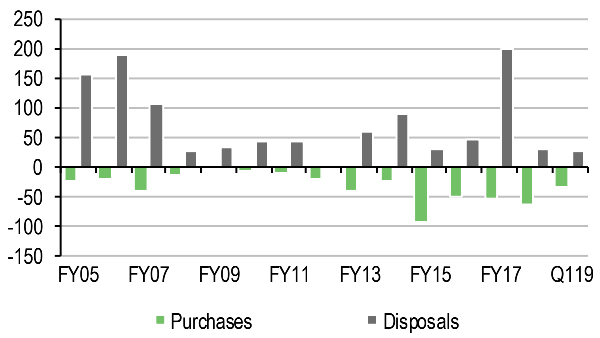
Exhibit 2: DBAG's PBT by segment (€m)



Source: DBAG, Edison Investment Research

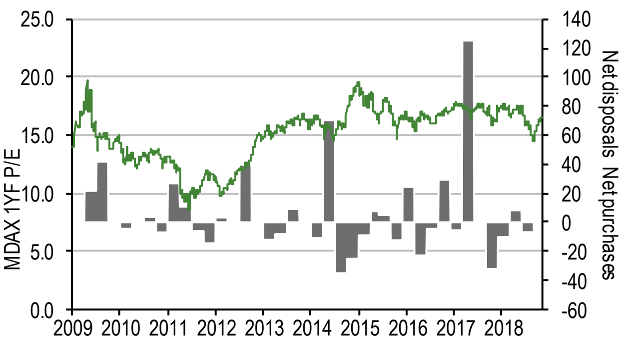
Exhibits 3 and 4 are good illustrations of the trends in DBAG's new investments and exits in the context of equity market developments. DBAG's annual cash outflows for portfolio additions and cash inflows from disposals averaged €57m and €79m between 2014 and 2018, respectively. However, they were characterised by occasional peaks, driven by portfolio exits. Interestingly, DBAG was able to benefit from favourable market valuations both before the onset of the 2008/09 crisis and more recently in 2017, with a high value of executed disposals at that time.

Exhibit 3: DBAG annual reported cash flow from purchases and disposals of financial assets (€m)



Source: DBAG, Edison Investment Research

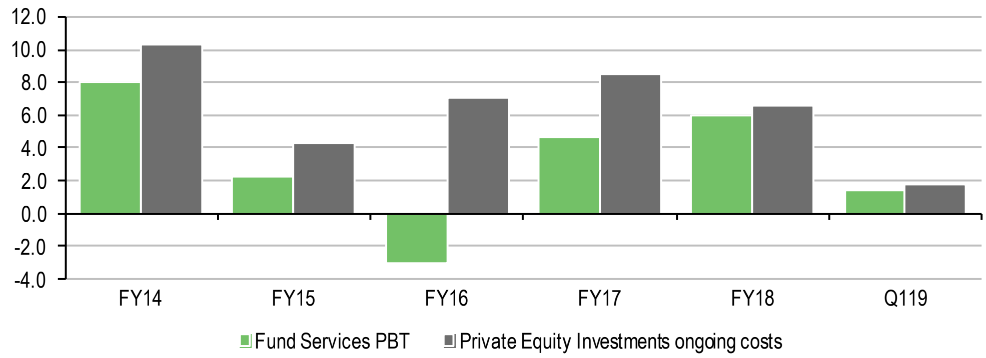
Exhibit 4: Quarterly net cash from purchases and disposals* (€m) compared to MDAX 12M fwd P/E ratio



Source: DBAG, Refinitiv, Edison Investment Research. Note: *Data available until end-2018.

Fund Services makes up a much smaller proportion of DBAG's profits, but at the same time consists mostly of stable cash inflows from management fees (see detailed description in DBAG funds section). Importantly, the segment increases the financial resources available to DBAG for portfolio investments (allowing it to enter into larger deals). Moreover, it allows DBAG's shareholders to have access to private equity investments at a lower cost in comparison to investors in a regular limited partnership fund, given that the segment is usually profitable. Interestingly, the segment's earnings are the equivalent of a meaningful part of the net ongoing costs of the Private Equity Investments segment in absolute terms (c 50% of the negative other income/expenses balance over the last five years; see Exhibit 5). This also gives DBAG more flexibility when it comes to deciding on the timing of its portfolio exits. However, as discussed later in the report, DBAG expects a temporarily lower segment result on a year-on-year basis in FY19 due to possible fund-raising costs associated with DBAG Fund VII's successor.

Exhibit 5: Fund Services segment's PBT vs Private Equity segment's net other expenses (€m)



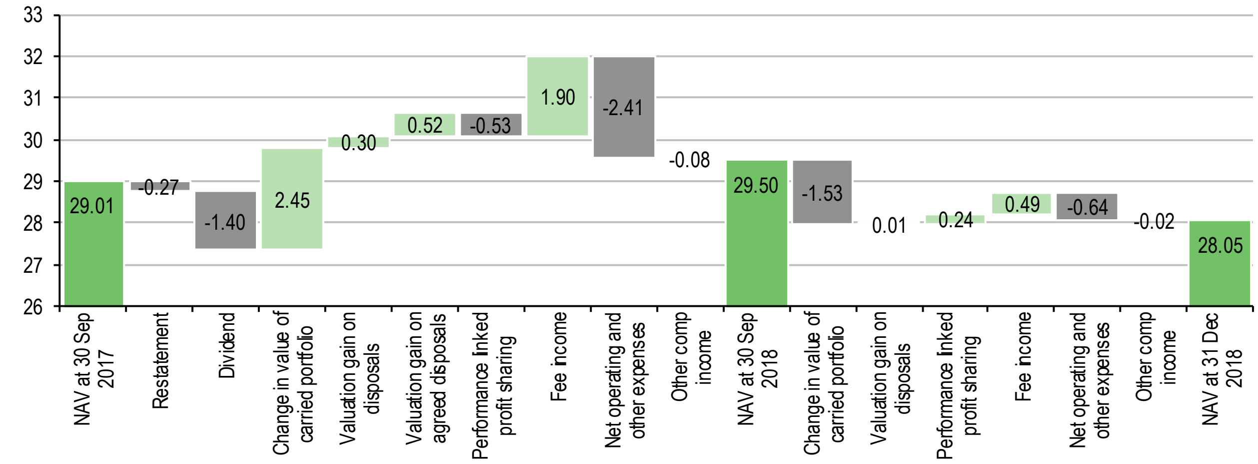
Source: DBAG, Edison Investment Research. Note: Private Equity segment net expenses include fees on DBAG's co-investments charged by the Fund Investment Services segment (eg €0.9m in FY18).

Latest NAV down slightly on lower market multiples

DBAG's NAV per share increased from €29.01 in FY17 to €29.50 in FY18, which represents a 6.9% return, after adjusting for the FY17 dividend payment of €1.40 per share and announced dividend of €1.45 paid in February 2019. The main driver was unrealised portfolio valuation gains, which contributed €2.45 on a per share basis. Valuation gains on disposals (including the disposal of CleanPart finalised in Q119) amounted to €12.4m and added €0.83 in NAV per share. Fee income from Funds Services matched DBAG's operating expenses during that period.

However, at the end of December 2018, DBAG's NAV per share was down 0.8% y-o-y and down 5.1% q-o-q (on a dividend-adjusted basis) to €28.05 (see Exhibit 6). Amid the lack of disposal gains (CleanPart was reflected in the end-FY18 NAV), negative valuation changes on the carried portfolio were the key driver of changes in DBAG's NAV and reducing it by €23.1m (or €1.53 on a per share basis).

Exhibit 6: DBAG's NAV performance FY18–Q119 (€/share)



Source: DBAG, Edison Investment Research

The manager's view

Because of the nature of its private equity co-investment activity and fund investment services business, management believes that DBAG's performance should be evaluated over the medium to long term. It notes that unpredicted events can significantly influence performance in any financial year, as reflected by the variation in returns over the last 10 years. For example, we calculate that, on dividend reinvested basis, in FY17 and FY11 DBAG's returns stood at +23.9% and -6.5%, respectively, compared to the average annual return of 11.2% between FY09 and FY18.

DBAG expects that it will invest €112m in FY19 (with €40m already invested in Q119), but should record a lower net cash outflow from investing activity on the back of disposals and refinancings. Based on the projected earnings growth of its portfolio companies, DBAG's management expects NAV to grow by up to c 10% pa over the medium term. DBAG also anticipates an up to 10% y-o-y increase in fee income in FY19 compared with the €29.4m earned in FY18, which translates to c €32m. However, operating income for the fund services business is likely to decrease up to 10% y-o-y due to the possible fund-raising costs of DBAG Fund VII's successor. With 56% of the committed capital for DBAG Fund VII already allocated, DBAG plans to launch a successor fund by 2020/2021. This should result in a meaningful increase in fee income from FY21.

For the current financial year, DBAG management expects net income to be 20–40% below the five-year average of €48m, with the mid-point of this guidance implying earnings of €33.6m. This reflects the current structure of the portfolio, which is dominated by investments younger than two years. However, in the medium term, DBAG's management anticipates NAV returns significantly above its cost of capital and net income more than 40% above the five-year average by FY21.

The downturn in the German stock market towards the end of 2018 and the resultant lower market multiples as at 31 December 2018 led to DBAG announcement in mid-January 2019, that if market valuations were to remain unchanged until the end of the financial year, FY19 net income would fall short of management guidance. However, since the beginning of 2019 we note that the German market has rebounded significantly, with the DAX index up 10% ytd. Consequently, the index is currently just 5% below the end-September 2018 level.

Asset allocation

Investment strategy: 'Mittelstand' companies with potential

DBAG operates an integrated business model with two complementary business lines, private equity investments and fund investment services, centred upon DBAG-managed private equity funds (DBAG funds), through which DBAG invests alongside third-party investors. Investing via the DBAG-managed funds creates a substantially larger capital base, and hence a broader range of investment opportunities, for DBAG's own investments. The strategy also provides some assurance to third-party investors in the funds that the manager's interests are aligned with their own.

DBAG focuses on investing in well established companies with proven business models and does not invest in early-stage businesses or companies requiring restructuring. The companies are often characterised by leading market positions, entrepreneurial management and capacity for innovation, with the prospect of a long-term future for their products. At end-December 2018, DBAG's portfolio investments comprised 21 management buyouts (MBOs), eight expansion financings and two international buyout funds. The two international funds are older investments, dating from 2001 and 2003, which are gradually being liquidated through the realisation of the underlying investments.

DBAG has four core sectors of expertise: mechanical and plant engineering, automotive suppliers, industrial services providers and industrial components manufacturers. Over the last 20 years, 71% of DBAG's MBO investments have been in these sectors. As at end-December 2018 63% of the portfolio value was invested in core sectors (including expansion capital). Since FY15, DBAG has increased exposure to other sectors (mostly IT, media and telecommunications, and consumer goods) from 19% to 37%. This corresponds with the ongoing digitalisation of the economy, creating more attractive opportunities outside the core segments, along with the growing scale of DBAG funds. As well as participating in competitive sale processes, DBAG's extensive network enables it to originate proprietary deal flow. At end-September 2018, 13 out of 27 investments could be traced back to DBAG's own network.

The investment process consists of three phases:

- **Investing** – identification and assessment of transaction opportunities. In FY18, 261 investment opportunities were screened. Follow-up work was done on 211 or 81% of these opportunities. Almost 55% of them were in DBAG's core sectors.
- **Developing** – supporting a portfolio company's development process. DBAG typically supports portfolio companies as a financial investor in a focused partnership role for four to seven years. DBAG sees value appreciation opportunities in its current portfolio mainly from geographical expansion (33% of investments by value at end-September 2018), operational improvements (29%) and new business field expansion (27%). The targeted average annual gross internal rate of return (IRR) is 25% for MBOs and 20% for expansion capital financings.
- **Realising** – realising value appreciation through a well-timed and well-structured divestment. Investments are usually exited through a trade sale of portfolio companies to an industrial partner with which they can continue their development, but may also involve the sale to a new financial investor or listing as a public company.

Members of the investment team with greater experience and management board members are required to personally co-invest alongside DBAG funds (in order to ensure further interest alignment) and generally contribute 1% of raised capital. They are entitled to a share in profit (carried interest) at 20% of proceeds from sales over the investors' preferred return of 8% pa.

Since 1997, DBAG has financed 51 MBOs alongside DBG Funds III–VII, achieving an aggregate 2.1x increase in the value of invested capital (as at end-September 2018). As at end-December

2018, 30 of these investments had been realised, with aggregate exit valuations representing 2.9x invested capital (see Exhibit 7).

Exhibit 7: DBAG's MBO transactions realised since 1997 until Q119

Company	Investment date	Divestment date	Holding period (years)	Exit route	Exit multiple
CleanPart Group GmbH	Apr-15	Oct-18	3.5	Trade Sale	2.4x
Formel D GmbH	May-13	Jul-17	4.2	Secondary Buyout	4.9x
ProXES GmbH	May-13	Jul-17	4.2	Secondary Buyout	5.4x
ZGS-Bildungs GmbH	Oct-13	Jul-17	3.8	Secondary Buyout	3.9x
Romaco GmbH	Apr-11	Jun-17	6.2	Trade Sale	2.4x
FDG S.A.	Jun-10	Apr-17	6.8	Secondary Buyout	2.4x
Broetje	Mar-12	Oct-16	4.6	Trade Sale	4.1x
Clyde Bergemann Power Group	May-05	Apr-16	10.9	Trade Sale	0.3x
Spheros GmbH	Dec-11	Mar-16	4.3	Trade Sale	2.5x
Homag Group AG	Feb-07	Oct-14	7.7	IPO / Trade Sale	2.8x
Coveright Surfaces GmbH	Jun-03	Jan-13	9.6	Trade Sale	1.2x
ICTS Europe B.V.	Mar-08	Dec-12	4.8	Write off	0.0x
Preh GmbH	Oct-03	Dec-12	9.2	Trade Sale	3.1x
Coperion GmbH	Jul-07	Nov-12	5.3	Trade Sale	4.2x
Heim & Haus GmbH	Sep-06	May-11	4.7	Buy Back	1.9x
MCE AG	Apr-07	Oct-09	2.5	Trade Sale	4.1x
Lewa GmbH	Sep-05	Aug-09	3.9	Trade Sale	7.3x
AkSys GmbH	Nov-01	Oct-08	6.9	Trade Sale	0.1x
DS Technologie GmbH	Jul-98	Oct-07	9.3	Trade Sale	1.3x
HT Engineering GmbH	Jun-02	Jun-06	4.0	Trade Sale	6.2x
Zapf GmbH	Nov-99	Apr-06	6.4	Trade Sale	0.1x
Otto Sauer Achsenfabrik	Apr-04	Mar-06	1.9	Secondary Buyout	4.1x
Babcock Borsig Service	Nov-03	Apr-05	1.4	Trade Sale	5.8x
Andritz AG	Dec-99	Aug-04	4.4	IPO	2.0x
Edscha AG	Oct-00	Dec-02	2.2	Secondary Buyout	1.8x
Libro AG	Feb-97	Jul-01	3.4	Trade Sale	1.6x
Sebaldus GmbH	Aug-97	Nov-00	3.3	Trade Sale	3.5x
Euvita KG	Jul-97	Aug-00	3.1	Trade Sale	0.9x
GAH AG	Jul-98	Jul-00	2.0	Trade Sale	3.7x
Schoeller & Hoesch KG	May-97	Dec-98	1.6	Trade Sale	2.6x
Average			**4.8**		**2.7x**

Source: DBAG

Exhibit 8: DBAG's MBO transactions realised since 1997 by segment until Q119

	Average holding period (years)	Unweighted average exit multiple (x)	Number of exits
Mechanical and plant engineering	6.0	3.6	10
Industrial components	5.6	1.9	2
Industrial services	3.5	3.1	6
Automotive suppliers	4.8	2.8	6
Other	4.1	2.0	6

Source: DBAG, Edison Investment Research

DBAG funds: Steady progress in commitments allocation

DBAG's funds deployed in portfolio companies in the form of equity investments and short-term financing increased to €1.1bn as at end-December 2018 (up 12.5% q-o-q and 31.1% y-o-y), reflecting the ongoing investment periods of DBAG Fund VII and ECF II. In contrast, DBAG's assets under management (AUM) or advisory in four funds remained broadly stable at €1.8bn (down 2.3% q-o-q and 0.2% y-o-y). This is because DBAG already recognises the outstanding capital commitments in full in its AUM upon the launch of the respective MBO fund.

Exhibit 9: DBAG's currently active funds

Fund	Launch date	End of investment period	Target	Status	Size	Thereof DBAG's holding (%)	% allocated
DBAG Fund V	Feb-07	Feb-13	Buyouts	Divesting	€539m	19%	N/A
DBAG Fund VI	Feb-13	Dec-16	Buyouts	Divesting	€700m	19%	N/A
DBAG Fund VII	Dec-16	End 2022	Buyouts	Investing	€1,010m	20%	56%*
o/w top-up fund	Dec-16	End 2022	Buyouts	Investing	€202m	8%	N/D
DBAG ECF	May-11	May-17	Growth financing	Fully invested	€212m	47%	N/A
DBAG ECF I	Jun-17	Jun-18	Growth financing and small buyouts	Fully invested	€85m	41%	N/A
DBAG ECF II	Jun-18	End 2020	Growth financing and small buyouts	Investing	€97m	41%	36%**

Source: DBAG, Edison Investment Research. Note: *Allocation of principal fund. **Edison estimate.

As described earlier in the note, profit from the fund services segment on average covers c 50% of the costs of The Private Equity Investments segment. The company collects fees for fund management and advising on the basis of committed capital in the case of its largest funds targeting MBO transactions, with DBAG Funds V–VII charging c 2.0% pa. Consequently, fee income from MBO funds increases sharply when a fund is launched and remains broadly stable for an initial period, irrespective of the pace of the fund's deployment. Once the fund is fully invested, fees are charged based on capital invested and fee income subsequently declines during the realisation period. The only exception is DBAG Fund VII's top-up fund, which invests exclusively in transactions that exceed the concentration limits of the principal fund. In this case, fees are charged at 1.0% pa, based on capital invested rather than committed. New MBO funds are normally launched every four to five years. Given that DBAG's Fund VII principal fund has already allocated 56% of the committed funds, the company expects to launch its successor fund by 2020/2021.

DBAG ECF fund was targeted at expansion capital investments and mostly holds minority stakes in its portfolio companies, while subsequent new investment periods (denoted ECF I and ECF II) can also acquire majority stakes in relatively small buyouts. DBAG's fee income from these funds is based on capital invested (rather than committed) and subsequent investments increase the fees collected by DBAG. With the start of a new investment period in June 2017 (DBAG ECF I), new terms of the advisory agreement came into force, resulting in significantly higher income earned from the fund after a transition period when no fees were charged. The amended fee structure includes 1.75% of the invested capital per annum and an additional one-off fee of 2.0% upon completion of a new investment. This compares with the previous agreement where the fee was set at 0.875% of invested capital per annum.

Exhibit 10: DBAG's remuneration from advised funds

Funds	Committed funds	Capital invested	Transaction set-up
DBAG Funds V–VII	2.0% pa*	2.0% once fully invested*	None
DBAG ECF	None	1.75% pa	2.0%

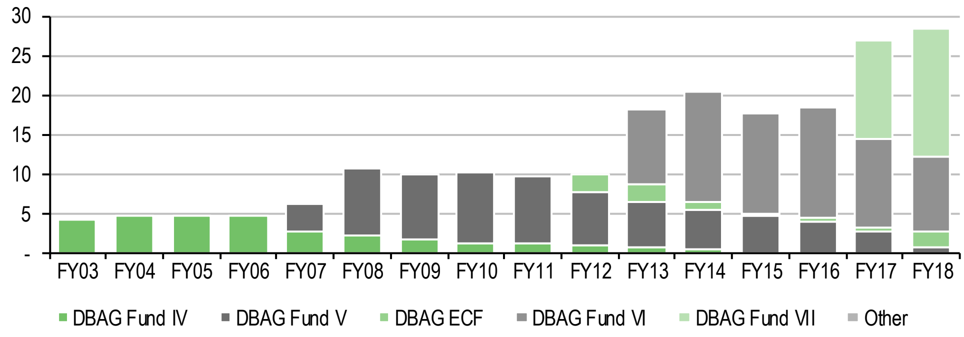
Source: DBAG, Edison Investment Research. Note: *Except DBAG Fund VII's top-up fund as discussed above.

DBAG plans to launch new vintages in DBAG ECF every two years, each with a 10-year investment horizon, although ECF II was launched ahead of schedule in June 2018 due to the successful full deployment of funds in DBAG ECF I (between June 2017 and June 2018). To reach its targeted size, we estimate DBAG ECF II will invest a further c €62m until end-2020 at the latest. This represents c 64% of funds committed and should translate into c €1.2m in one-off transaction fees in total until this vintage is fully invested. Investments should also translate into annual incremental recurring management fees – we estimate these at €1.1m pa. Total recurring income (assuming ECF invests in full, no exits are realised and excluding intra-group fees) should reach c €3.9m pa.

DBAG expects that fee income from Fund Servicing should increase slightly in FY19 due to the higher value of invested capital in DBAG ECF following the 2018 investments (FLS, BTV Multimedia, Von Poll Immobilien, Netzkontor and Sjølund) and additional transaction fees from new investments expected to be concluded over the period. However, we note that DBAG generates most of its fee income from MBO funds rather than ECF funds (with the latter contributing only 7%

and 2% to total segment revenue in FY18 and FY17, respectively, see Exhibit 11). Given that DBAG's Fund V and VI are already in the divestment phase, the fee growth from ECF II may be at least partially offset by lower fees from the MBO funds due to portfolio exits. A significant increase in fee revenue is expected with the launch of the successor fund to DBAG Fund VII (expected by 2020/2021 as mentioned above). In this context, it is worth noting that over the last 30 years, every new fund launched by DBAG was larger than its predecessor. Fund-raising activities associated with the launch of DBAG Fund VII in FY16 amounted to €1.9m, and taking into account the costs for possible fund-raising activity, DBAG expects a lower segment profit in FY19.

Exhibit 11: DBAG fee income by fund (€m)



Source: DBAG, Edison Investment Research

Current portfolio positioning: DBAG in investment phase

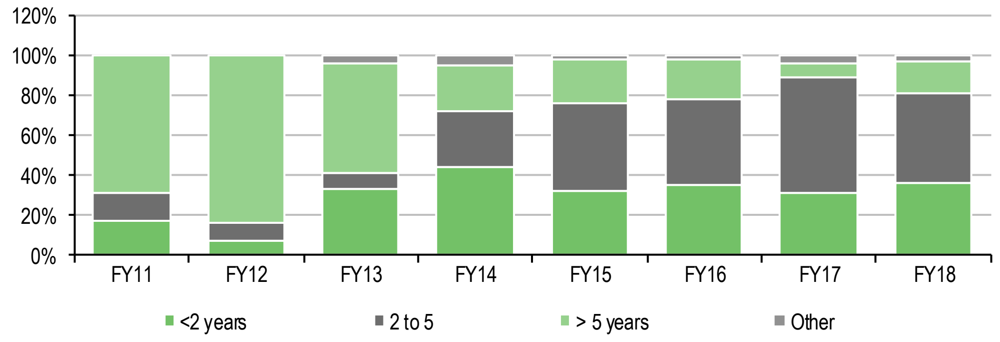
DBAG's current portfolio is relatively young as we show in Exhibit 12. As at end-December 2018, around 49% of DBAG's portfolio by capital invested was allocated to portfolio companies younger than two years. This is a function of:

- A number of exits in 2017 (Formel D, ProXES, Schülerhilfe, Romaco and FDG) and the recent disposal of CleanPart;
- A steady pace of investment by DBAG Fund VII (investment period started in December 2016, with 56% of the €808m commitment in the main pool already allocated);
- New investment periods in DBAG ECF: DBAG ECF I (June 2017 to June 2018, €85m fully invested), and DBAG ECF II (started in June 2018, 36% of €97m invested); and
- Lower market valuations reducing the share of companies valued using market multiples (as opposed to companies acquired less than one year ago, which are valued at cost).

DBAG expects to deploy €94m of capital annually over next three years; it has already invested €40m in Q119. This compares with the €283m of capital invested so far in current portfolio companies. DBAG expects average annual investments over the next three years of c €94m pa based on co-investment agreements with DBAG Fund VII and DBAG ECF II.

The current relatively low average holding period in DBAG's portfolio corresponds with a conservative outlook for FY19 in terms of valuation gains, while providing more promising medium-term prospects. The ongoing investment periods in DBAG Fund VII and DBAG ECF II, paired with possible disposals, should contribute to a young portfolio being sustained in the short term.

Exhibit 12: Age profile of DBAG's portfolio by value

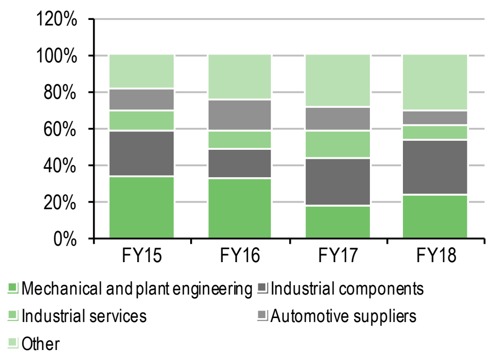


Source: DBAG, Edison Investment Research. Note: *Edison estimates.

Since the beginning of FY18, DBAG finalised eight new MBOs alongside DBAG ECF and DBAG Fund VII, with the next MBO expected to close by the end of March 2019. See our previous notes on Q119, Q318 and Q118 for detailed descriptions of recent acquisitions.

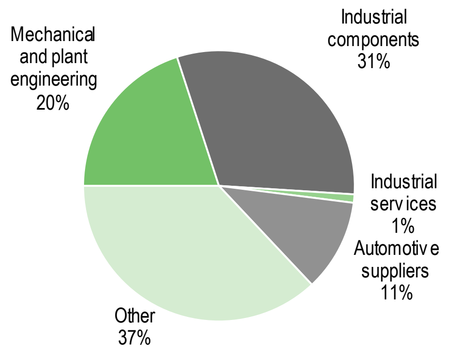
As at the end of Q119, DBAG itself had invested €87m in these companies. Four of these investments are active in DBAG's core sectors (mechanical and plant engineering, automotive suppliers, industrial components). Three investments (Netzkontor, BTV Multimedia and FLS) are related to IT, media and telecommunications, which means eight out DBAG's 29 total portfolio investments are now in this sector. This illustrates the company's conviction in the attractiveness of investments providing exposure to the ongoing digitalisation of the global economy. This also applies to portfolio companies such as duagon, which offers complex solutions for railway vehicles. Through the acquisition of MEN Mikro Elektronik (in May 2018), duagon added hardware and systems for the control of brakes, doors and other subsystems in railway vehicles to its business of vehicle network components. DBAG's four core sectors represented 63% of its portfolio value as at end-December 2018, as compared with an average of 77% since 2011. DBAG has decided to broaden its sector exposure as a result of a significant increase in the size of funds managed coupled with the number of attractive targets identified outside of its core segments.

Exhibit 13: Portfolio split by sector FY15–18



Source: DBAG, Edison Investment Research

Exhibit 14: Portfolio split by sector Q119

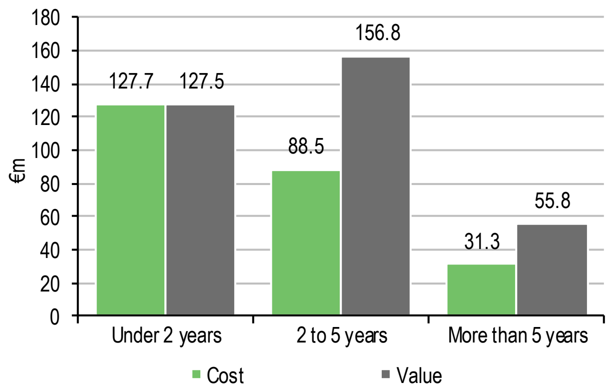


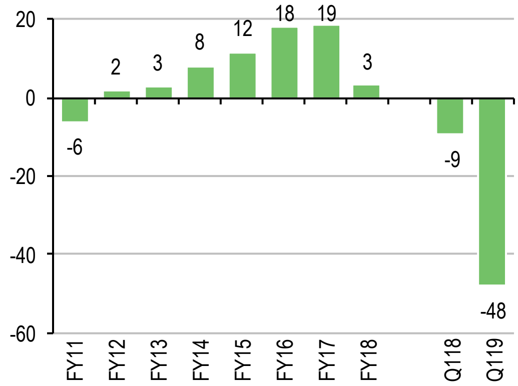
Source: DBAG, Edison Investment Research.

Taking into account DBAG's relatively young portfolio, and our view that new investments are likely to exceed disposals in the near term, we believe that low market valuations present more opportunities than threats. Nonetheless, a long-term downturn scenario could potentially result in lower realised returns upon exits, once DBAG's portfolio matures. However, given that DBAG is an active investor and the majority of value creation comes from structural business developments at portfolio companies, we believe the prospects for value growth in DBAG's portfolio should only be affected to a limited extent in this scenario.

Exhibit 15: Portfolio value analysis

Portfolio investment cost and value by holding period at 30 September 2018	Effect of a change in multiples on portfolio value (€m)





Source: DBAG, Edison Investment Research. Note: *Edison estimates.

Recent portfolio developments

After the Q119 reporting date, a radiology practice was acquired as an addition to the Ranova network, in which DBAG's investment has yet to close. The transaction involving the acquisition and merger of several radiology practices was initially agreed in March 2017, when DBAG committed to invest €15m for an 11% stake (translating into a 56% combined stake with DBAG Fund VII) in a newly formed group, which at that time delivered revenues of c €54m pa. With the new investment group revenues totalled c €134m in 2018.

Other developments include DBAG supporting BTV Multimedia in the acquisition of Anedis, its main competitor in the German market, by providing €2.2m of funding, which will be reflected in Q219 figures and should increase DBAG's investment in the company to €7m. Anedis's annual revenue of €19m compares to an estimated €31m for BTV in 2018. Meanwhile, although Unser Heimatbäcker filed for insolvency, this will not affect Q219 results as DBAG recorded a further impairment in Q119 (which reduced earnings by €1.6m). Finally, DBAG ECF sold its minority stake in PSS in January 2019, with the negotiated price reflected in the fair value of the portfolio as at end-December 2018.

Exhibit 16: DBAG's investment portfolio at end-December 2018

Company	Headquarters	Core business	2018 revenue	Emplo-yees	First inv't	Type of inv't	Co-inv't fund	Fund equity share	DBAG inv't cost	DBAG equity share	DBAG portfolio value*
JCK KG	Quakenbrück, Germany	Textile retail business, mainly for discounters in Germany	€786m	1,530	Jun-92	Exp'n capital	DBAG ECF	6.5%	€8.8m	9.5%	>5 yrs
Plant Systems & Services PSS GmbH	Bochum, Germany	Industrial services for energy/ process industries in Europe	€44m	205	Nov-12	Exp'n capital	DBAG ECF	28.5%	€2.3m	20.5%	
Heytex Bramsche GmbH	Bramsche, Germany	Textile print media/technical textiles worldwide	€107m	500	Dec-12	MBO	DBAG Fund V	67.1%	€6.3m	16.8%	
Inexio KGaA	Saarlouis, Germany	High-quality fibre-optic telecoms/ IT services in Europe	€68m	260	May-13	Exp'n capital	DBAG ECF	9.5%	€7.5m	6.9%	€56m
DNS:NET Internet Service GmbH	Berlin, Germany	High-quality fibre-optic telecoms/ IT services in Germany	€18m	125	Sep-13	Exp'n capital	DBAG ECF	21.8%	€6.4m	15.7%	
Unser Heimatbäcker GmbH	Pasewalk, Germany	Bakery chain in Germany	€129m	2,690	May-14	MBO	DBAG Fund VI	80.0%	€12.2m	18.8%	2-5 yrs
Infiana Group	Forchheim, Germany	Plastic-based release liners/ specialised films worldwide	€216m	800	Dec-14	MBO	DBAG Fund VI	75.1%	€4.5m	17.6%	
Pfaudler Process Solutions Group	Luxembourg, Luxembourg	Glass-lined reactors for pharma/ chemical industries worldwide	US$275m	1,400	Dec-14	MBO	DBAG Fund VI	75.5%	€12.2m	17.7%	
Oechsler AG	Ansbach, Germany	Injection-moulded precision auto components worldwide	€433m	3,130	Mar-15	Exp'n capital	DBAG ECF	11.6%	€11.2m	8.4%	€157m
Gienanth GmbH	Eisenberg, Germany	Iron foundry in Germany	€160m	1,100	Mar-15	MBO	DBAG Fund VI	49.8%	€3.9m	11.7%	
Silbitz Group GmbH	Silbitz, Germany	Iron foundries worldwide	€168m	1,050	Aug-15	MBO	DBAG Fund VI	55.4%	€4.3m	13.0%	
Novopress GmbH	Neuss, Germany	Construction/electrotechnical/ sanitary tool systems worldwide	N/A	105	Jun-15	Exp'n capital	DBAG ECF	20.9%	€2.3m	18.9%	
mageba AG	Bülach, Switzerland	Structural bearings, joints for infrastructure worldwide	CHF113m	800	Feb-16	Exp'n capital	DBAG ECF	21.8%	€6.6m	19.8%	
Telio Group	Hamburg, Germany	Communications and media systems in prisons in Europe	€50m	140	Apr-16	MBO	DBAG Fund VI	68.1%	€14.3m	16.0%	
R&M International	Hamburg, Germany	Interior outfitting for ships and marine installations worldwide	€125m	520	Sep-16	Exp'n capital	DBAG ECF	24.3%	€12.2m	22.1%	
Polytech Health & Aesthetics GmbH	Dieburg, Germany	Silicone implants for plastic surgery in Europe	€43m	180	Oct-16	MBO	DBAG Fund VI	63.9%	€13.1m	15.0%	
Frimo Group	Lotte, Germany	Plastic auto component tooling/ production plant worldwide	€200m	1,400	Nov-16	MBO	DBAG Fund VI	61.8%	€17.4m	14.5%	
FY17 investments											**1-2 yrs**
Dieter Braun	Bayreuth Germany	Cable assembly/lighting for automotive industry worldwide	€85m	1,500	Jan-17	MBO	DBAG Fund VI	69.3%	€5.9m	16.2%	
More than Meals Europe Sàrl	Luxembourg	Own-label ready meals / snacks for supermarkets in Europe	€475m	3,250	Apr-17	MBO	DBAG Fund VII	73.2%	€16.5m	16.5%	
Vitronet Projekte GmbH	Essen, Germany	Fibre optic network services provider in Germany	€59m	230	Jun-17	MBO	DBAG ECF	45.5%	€4.5m	41.3%	
duagon AG	Dietikon, Switzerland	Railway vehicle data network components worldwide	CHF107m	400	Jul-17	MBO	DBAG Fund VII	74.1%	€24.6m	21.7%	
FY18 investments											
BTV Multimedia GmbH	Hannover, Germany	Cable network equipment	€31m	90	Aug-18	MBO	DBAG ECF II	52.3%	€4.8m	36.9%	
Karl Eugen Fischer GmbH	Burgkunstadt, Germany	Cutting systems for tyre industry worldwide	€86m	550	Jun-18	MBO	DBAG Fund VII	71.8%	€22.7m	21.0%	
Netzkontor Nord GmbH	Flensburg, Germany	Fibre-optic networks management in Germany	€17m	140	Jan-18	MBO	DBAG ECF I	47.4%	€9.1m	33.4%	€126m
Sjølund A/S	Sjølund, Denmark	Complex aluminium and steel components worldwide	DKK300m	200	Jan-18	MBO	DBAG ECF I	29.4%	€4.5m	20.7%	
von Poll Immobilien GmbH	Frankfurt, Germany	Real estate agency in Europe	€73m	120	Jul-18	MBO	N/A	44.3%	€11.8m	31.2%	
FY19 investments											
SERO Schröder Elektronik Rohrbach GmbH	Rohrbach, Germany	Electronic components for automotive sector in DACH	€87m	270	Nov-18	MBO	DBAG Fund VII	76.6%	€11.4m	11.4%	
Kraft & Bauer Holding GmbH	Holzgerlingen, Germany	Fire extinguishing systems for machine tools in DACH	€26m	80	Nov-18	MBO	DBAG Fund VII	64.8%	€14.1m	19.0%	
FLS GmbH	Heikendorf, Germany	Route optimization software in Europe	€10m	70	Oct-18	MBO	DBAG ECF II	23.0%	€9.5m	16.3%	
Buyout funds											**>5 yrs**
Harvest Partners IV	New York, USA	One investment remaining in portfolio			Oct-01	Buyout fund			€0.1m	9.9%	N/D
DBG Eastern Europe II	Jersey, Chan. Islands	One investment remaining in portfolio			Jan-03	Buyout fund			€0.0m	14.9%	

Not yet completed											
Radiology Group	Herne and Unna, Germany	Diagnostic/therapeutic radiology services in Germany	€134m	550	Mar-17	MBO	DBAG Fund VII	N/A	N/A	N/A	€0m
FY19 divestments											
Cleanpart Group	Asperg, Germany	Semi-conductor industry engineering services worldwide	€61m**	480**	Apr-15	MBO	DBAG Fund VI	76.6%	€7.1m	18.0%	Sold Oct-18
FY18 divestments											
-	-	-	-	-	-	-	-	-	-	-	-

Source: DBAG, Edison Investment Research. Note: *Portfolio values as at 30 September 2018. **2017.

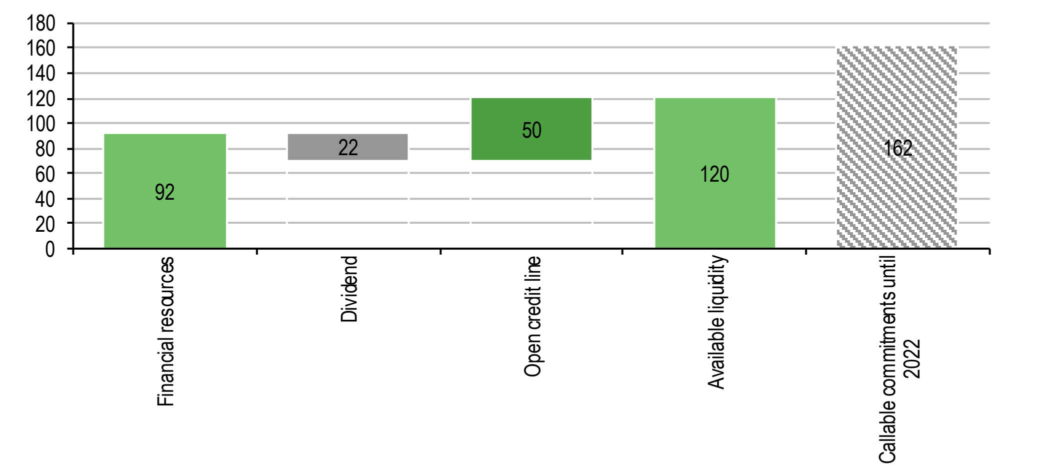
Financial resources: Secure liquidity position

At end-Q119, DBAG had €92m of financial resources at its disposal (of which c €19m was held in cash, and c €73m in liquid securities), down from €119m at end-FY18 and €162m at end-FY17. This is a function of new investments rejuvenating DBAG's portfolio.

At end-December 2018, DBAG had €162m in undrawn capital commitments, down from €198m at end-FY18. The majority of these commitments relate to DBAG Fund VII and new vintages of DBAG ECF and are callable until 2022. Financial resources covered 57% of undrawn commitments; the remainder could be partly covered using the currently open and undrawn credit line of €50m. Including the €22m dividend paid on 26 February 2019, commitments exceeded available funds by €42m, which should be funded by disposal proceeds. The shortfall at end-December 2018 represents 10% of DBAG's NAV and remains broadly in line with prior periods (7% at end-FY18 and 12% at end-FY17).

Consequently, we believe that DBAG is well positioned to meet its investment obligations towards its funds and capitalise on new market opportunities. However, its ability to fund a steeper portfolio ramp-up curve may be dependent on cash inflow from portfolio exits. It is worth noting that, on top of the current financial resources balance and the undrawn credit line, DBAG's board of management is also authorised to issue up to €140m in warrant-linked and/or convertible bonds until February 2022.

Exhibit 17: DBAG's liquidity position (€m)



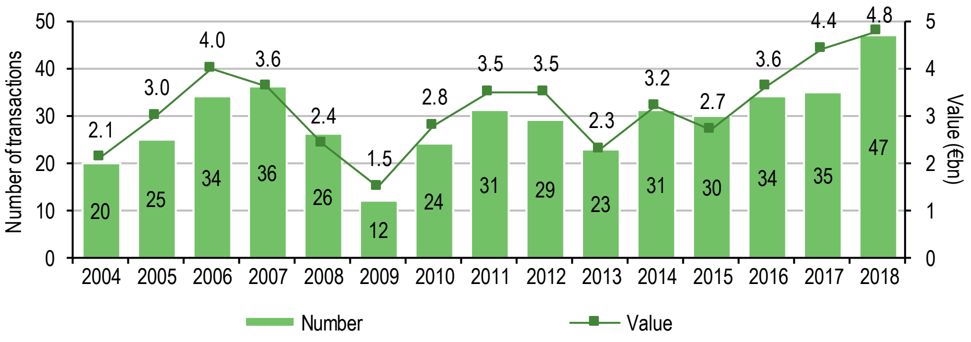
Source: DBAG, Edison Investment Research

Private equity market: Record-high level of dry powder

2018 was a record-high year for private equity investments in the DACH region, as well as across Europe. According to PwC data, 1,566 buyouts worth a post-crisis record level of €175bn were completed in Europe (+11% and +25% y-o-y growth in terms of number of transactions and deal value, respectively). In the DACH region alone, 323 transactions worth €30.9bn were completed, which represents a 56% y-o-y growth in value and the second-best year since the financial crisis. The favourable market environment has supported sizeable fund-raisings by private equity managers.

In the German SME (mid-market) MBO segment (DBAG's target market), total deal value reached €4.8bn in 2018 (up from €4.4bn in 2017) with a high share of family succession transactions, according to research by FINANCE and DBAG. Over the last 15 years, there were 437 MBOs in Germany, which is dominated by financial investors with a focus on the DACH region – accounting for a long-term market share of 40–60%. DBAG was the most active player among competitors over this period, with 27 realised transactions. Interestingly, the contribution of MBOs from less conventional sectors (in particular electronics and software) stood at 21% in terms of the number of deals in 2018 compared to the 2014–18 average of 9%.

Exhibit 18: MBO transactions in the German SME sector (€50–250m)



Source: Publicly available information, research by FINANCE and DBAG

2018 was somewhat weaker in terms of the value of exits, which in the DACH region stood at €17.1bn (vs a five-year average of €23.9bn), according to PwC. Similarly, global exits reached €139bn in 945 transactions (down 13.1% and 4.5% y-o-y in terms of deal value and number, respectively). This reflects private equity players focusing on deploying their liquid funds amid strong fund-raising activity rather than on realisations, with higher disposal activity seen amid the peak valuations recorded prior to 2018. Globally, the level of dry powder (ie uninvested capital committed) in the PE industry topped US$1tn in 2017 and is currently estimated at around US$1.2tn.

As dry powder has increased, valuations have become more demanding, with 68% of surveyed investors and 62% of fund managers believing that asset valuation will be a key challenge for returns in 2019 (according to the Global Private Equity and Venture Capital Report prepared by Preqin). In order to generate desired returns on new deals, private equity firms increasingly have to turn to value creation strategies beyond pure financial engineering. This includes in particular the buy-and-build approach, as well as business internationalisation. The former strategy may allow the PE fund to blend down the average investment entry valuation multiple, as add-on acquisitions are executed over time, possibly at less demanding multiples that do not discount the synergies to be realised in the investment platform. Moreover, add-ons are usually smaller companies that tend to be valued at lower multiples, while their incorporation into the investment platform enables the creation of a player with a stronger market presence and thus higher valuation multiple. We understand that the development of companies through internationalisation and M&A (on top of faster deal execution) constitutes a competitive advantage for PE funds versus family offices, which are increasingly becoming direct competitors, especially in Germany. The high level of dry powder is also encouraging PE funds to diversify into credit, real estate and infrastructure.

Digitalisation has become another important trend in the European PE industry, in line with DBAG's market views. 97% of the 250 PE houses that took part in a PwC survey invested in digital transformation in 2018. At the same time, 93% agree that digitalising portfolio companies constitutes a key part of the investment approach.

Dividend policy

DBAG implemented its current dividend policy in FY16 and intends to pay a stable or rising annual dividend. The change of policy from a dividend dependent on realised gains was based on increased level of recurring fee income and larger private equity investment portfolio. Under the new policy, shareholders can expect a smoother progression of the dividend payment each year.

In February 2019, DBAG distributed a dividend of €22m from FY18 income. This translated into a DPS of €1.45 compared with €1.40 a year earlier (+3.6% y-o-y). DBAG expects to pay a stable dividend in the mid-term of €1.45 a year until 2022 (from FY21 profit), which translates into a dividend yield of 4.3%.

Valuation: Premium reflects value of fund services unit

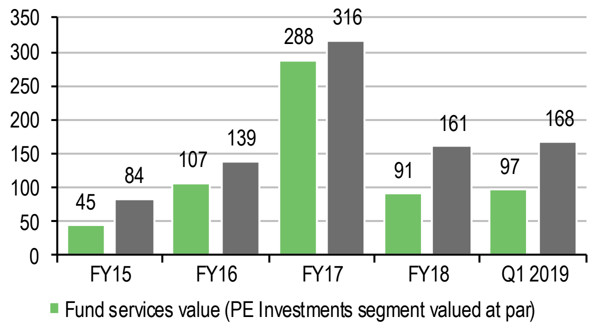
As discussed in our previous update notes, DBAG's reported NAV is almost exclusively attributable to the value of its private equity investment portfolio and does not account for the fair value of its fund services business, which currently represents third-party assets under management of c €1.4bn and generates considerable recurring fee income. In contrast, DBAG's market value reflects the value of both its fund services business and its private equity investment portfolio. Consequently, there is an inherent premium when comparing DBAG's share price with its reported NAV, which disguises any underlying premium or discount that the market may be applying to the value of DBAG's private equity investment portfolio. We believe that the value of DBAG's fund services business is the primary reason why the company's shares have traded at a premium to NAV throughout the last three years (currently at 21.2%), as illustrated in Exhibit 19.

DBAG's current market capitalisation exceeds its NAV (as at end-December 2018) by €89m, and assuming the excess represents the value of the financial services segment, it translates into a multiple of LTM earnings before tax for the segment at 13.1x. If we assume that the private equity investments business is valued at a discount to NAV in line with the current discount of the LPX Europe Index (13%), we arrive at the value of €145m for Fund Services (28% of market cap). This implies an LTM earnings before tax multiple ratio 21.2x. It is important to note that 17% of DBAG's current portfolio is valued at acquisition cost, but 12 months after the date of acquisition they will move to a multiple-based valuation.

Exhibit 19: Share price premium to NAV over three years (%)

Source: Refinitiv, Edison Investment Research

Exhibit 20: Implied value* of fund services segment (€m)



Source: Refinitiv, DBAG, Edison Investment Research.
Note: *Calculations based on DBAG's closing share price on the next day of trading following NAV publication date.

Peer group comparison

We have compared DBAG with other listed private equity investment companies with a prime focus on Europe in Exhibit 21. However, we acknowledge that DBAG is the only company in the group that targets mid-sized companies in German-speaking countries. Moreover, unlike all the peers except 3i in the UK, DBAG also manages third-party funds. As discussed earlier, we see the value of DBAG's fund services business as the main reason that its shares trade at a premium to its reported NAV. This is in contrast to its peers that do not manage third-party funds, some of which are trading at a wide discount to NAV. DBAG's 4.3% dividend yield is among the highest in the peer group (average of 3.3%).

Exhibit 21: Listed private equity investment companies peer group as at 5 March 2019*

% unless stated	Region	Market cap £m	NAV TR 1 year	NAV TR 3 years	NAV TR 5 years	NAV TR 10 years	Price TR 1 year	Price TR 3 years	Price TR 5 years	Price TR 10 years	Premium/ (discount)	Dividend yield
Deutsche Beteiligungs	**Europe**	**438.7**	**0.0**	**60.4**	**96.5**	**145.2**	**(25.7)**	**51.3**	**113.7**	**307.7**	**21.2**	**4.3**
3i	Global	9,457.0	20.3	124.2	216.1	57.6	(11.8)	79.8	145.1	383.1	41.8	3.8
HgCapital Trust	UK	791.3	14.5	68.1	115.3	202.4	3.5	76.8	110.6	258.8	2.5	2.2
ICG Enterprise Trust	UK	578.1	13.2	57.3	69.4	168.5	3.0	49.7	54.9	419.5	(18.2)	2.5
Oakley Capital Investments	Europe	406.8	15.5	46.3	46.3	170.9	8.8	29.0	(1.3)	192.6	(28.7)	2.3
Princess Private Equity	Global	559.8	8.0	63.4	92.7	92.1	(15.1)	55.3	98.9	342.4	(14.3)	5.9
Standard Life Private Equity	Europe	547.3	10.6	58.8	92.2	132.7	(2.8)	68.4	87.3	499.5	(12.2)	3.6
Average		**1,825.6**	**11.7**	**68.3**	**104.1**	**138.5**	**(5.7)**	**58.6**	**87.0**	**343.4**	**(1.1)**	**3.5**
Rank in peer group		**6**	**7**	**4**	**3**	**4**	**7**	**5**	**2**	**5**	**2**	**2**

Source: Morningstar, Edison Investment Research. Note: *Performance to end-December 2018. TR = total return in sterling terms.

DBAG's NAV total return in sterling terms modestly underperformed the peer group average over three and five years to 31 December 2018, ranking fourth and third out of seven, respectively. The company's one-year NAV TR performance was broadly flat, compared with average peer performance at 9.8%. However, DBAG outperformed the group over 10 years, posting a total return of 145.2% vs peer average at 138.5%. Despite the marked relative weakness in NAV total return over one year, DBAG's share price total return is only moderately lower than the peer group average over three years and above average over five years.

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