

Greggs

Profits on the go

Greggs has entered the second full financial year of its five-year growth plan having exceeded our initial FY22 revenue estimates, helped by elevated external inflationary pressures, and with profit in line with management's expectations. Despite the more challenging external environment, Greggs made good progress with the majority of its revenue growth initiatives in FY22. Following the expected normalisation of the cost base, which hampered profit growth in FY22, we forecast more consistent pre-tax profit growth in FY23–25 (three-year CAGR of 11%) relative to sales growth (12% CAGR).

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
12/21	1,229.7	145.6	114.3	97.0	23.7	3.6
12/22	1,512.8	148.3	117.5	59.0	23.0	2.2
12/23e	1,710.8	161.2	119.1	59.6	22.7	2.2
12/24e	1,902.9	183.1	131.7	65.9	20.5	2.4
12/25e	2,122.5	202.6	145.8	72.9	18.6	2.7

Note: *PBT and fully diluted EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

FY22: A different route to profit than expected

Management delivered on its FY22 profit guidance, with growth limited as expected while the cost base normalised post COVID-19, testimony to the strength of the brand and its value-based offer with greater-than-expected cost inflation through the year. FY22 year-on-year revenue growth of 23% included 17.8% like-for-like growth, which was boosted by higher selling price inflation to counter the elevated 9% underlying input cost inflation. The net cash position, excluding IFRS 16 liabilities, of c £192m is higher than typical as Greggs' capital investment peaks through FY25.

FY23–25: Profit growth more in line with sales growth

Our FY23 and FY24 profit estimates increase modestly, less than 1%, and we introduce forecasts for FY25. Following the normalisation of the cost base during FY22, which tempered profit growth versus revenue growth, we anticipate more consistent profit growth relative to sales growth in FY23–25. Management anticipates another year of high cost inflation (9–10% underlying) albeit the under-recovery of prices relative to cost inflation in FY22 will be more supportive for profit in the coming year. The increase in the standard UK corporation tax rate from 19% to 25% will restrict Greggs' EPS growth in FY23 and FY24. Shareholders will continue to be rewarded by the progressive dividend policy, but special dividends are unlikely during the peak capital spend period.

Valuation: DCF-based valuation of £30.50/share

The share price has been quite volatile during the last 12 months, mainly driven by the wider market gyrations. The strong rebound from the September 2022 lows takes Greggs' multiples back above long-term averages, warranted given its greater growth prospects and higher profitability, but below prior peak multiples. Our DCF-based valuation increases to c £30.50 (£29.70 previously).

FY22 results and outlook

Retail

29 March 2023

Price 2,706p
Market cap £2,763m

Net cash (£m) at 31 December 2022 (excluding IFRS 16 liabilities) 191.6

Shares in issue 102.1m

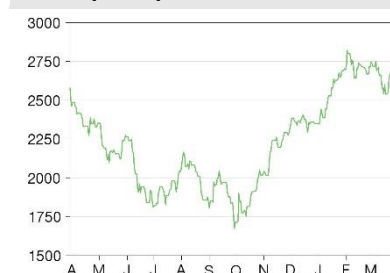
Free float 100%

Code GRG

Primary exchange LSE

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs (0.2) 15.3 8.3

Rel (local) 5.5 15.9 10.7

52-week high/low 2,820p 1,673p

Business description

With 2,328 shops and 12 manufacturing and distribution centres, Greggs is the leading UK 'food-on-the-go' retailer. It uses vertical integration to offer differentiated products at competitive prices. Its ambition is to grow revenue to £2.4bn by FY26.

Next events

Trading update 16 May 2023

H123 results 1 August 2023

Q323 trading update 3 October 2023

Analysts

Russell Pointon +44 (0)20 3077 5700

Milo Bussell +44 (0)20 3077 5700

consumer@edisongroup.com

[Edison profile page](#)

**Greggs is a research client of
Edison Investment Research
Limited**

Investment summary

Company description: Accelerating growth strategy

The Next Generation Greggs programme, which was launched in January 2020, is expected to accelerate Greggs' long-held strategic objective of becoming the customers' favourite for food-on-the-go (FOTG). The programme has four drivers of growth, supported by higher investment in the supply chain and systems: (1) accelerate the rate of estate growth and improve the estate's quality; (2) new digital channels (delivery and click and collect (C&C)) to enable Greggs to extend reach and customer choice; (3) grow sales in the evening with the help of menu enhancements and leveraging all distribution channels; and (4) broadening customer appeal and driving loyalty, with higher customer engagement and the Greggs Rewards loyalty scheme.

Financials: Profit growth improving, investment peak coming

The goal of the programme was set at an 'ambitious' doubling of sales to £2.4bn from FY22–26, a CAGR of 15%. The elevated cost inflation, which fed higher selling price inflation in FY22, has undoubtedly made the FY26 target more easily achievable. There is no explicit guidance for profitability through FY26, given the competitive market and vagaries of input cost inflation, but management hopes to at least sustain margins in the long term as potential operating leverage and supply chain optimisation fund the increased investment in new sustainability initiatives. Profit growth in FY22 was hampered by the normalisation of the cost base post COVID-19 and higher cost inflation than originally anticipated. While management anticipates another year of higher-than-average cost growth (9–10% underlying with a shift in pressures from food inputs towards staff costs) in FY23, we forecast that profit growth will more closely match sales growth than occurred in FY22. We forecast three-year revenue and PBT CAGRs of 12% and 11%, respectively. The company operates a conservative balance sheet, which supports the progressive dividend policy, although further special dividends are unlikely while Greggs undertakes the peak capital investment that is required to support the growth initiatives.

Valuation: DCF-based valuation of £30.50

Management's focus on driving growth in the FOTG market has been rewarded with a long-term increase in Greggs' valuation multiples as sales growth accelerated and cost leverage produced a consistent increase in profitability. Following the recovery in the share price from the September 2022 lows, the FY23–25e P/E multiples of 22.7x, 20.5x and 18.6x are at a deserved premium to the long-term average (FY13–19, excludes COVID-19 distortions) of 17.1x given its accelerated growth prospects, but below peak multiples (low/high 20s). Our DCF-based valuation is £30.50/share.

Sensitivities: Consumer economy, execution risk and inflation

We see the main sensitivities as:

- Challenges with the consumer economy including pressures on disposable incomes.
- Execution risk from a more rapid store expansion programme than historically, developing new revenue streams in new dayparts and channels of distribution, and supply chain changes.
- Input cost inflation including staff, food, utilities, currency and regulatory cost pressures.
- Following the UK's exit from the EU, there remains potential for changes to regulations and supply chain disruption, including delays to the import of goods.

Company description: On the go

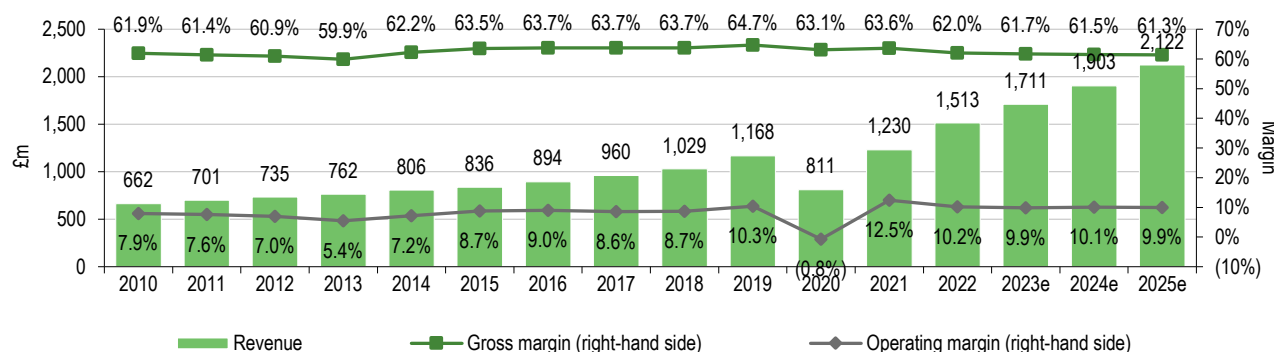
Greggs was founded as a Tyneside bakery in 1939 and grew to become a national chain with c 1,670 stores by the end of 2012. From 2013, management's strategic vision has been to become the customers' favourite for FOTG, with a value-based offer.

The four pillars of the long-term strategic vision have been consistent since then:

- **Great-tasting, freshly prepared food:** Greggs seeks to differentiate itself by highlighting its consistent high-quality and freshly prepared food made from responsibly-sourced ingredients, which is competitively priced.
- **Best customer experience:** the key elements are service and convenience. Convenience is strongly defined by location as well as format, areas of strong focus. Service needs to be simple and straightforward, and the company focuses on its in-store processes.
- **Competitive supply chain:** Greggs owns its own supply chain, and hand-in-hand with developing the estate, Greggs has rationalised the regional bakery estate to centres for national production of its major product lines.
- **First-class support teams:** the support team is largely governed by systems, where the company has finalised implementing SAP through the organisation.

Prior to the COVID-19 pandemic, from FY13–19 management's strategy generated strong financial growth with CAGRs for number of stores of 3%, revenue of 7%, gross profit of 9% and operating profit of 19%. Greggs' revenue has rebounded strongly from the outbreak of the COVID-19 pandemic, surpassing FY19's revenues in FY21 (lower transactions with compound price inflation). FY22 was helped by the first benefits from the five-year growth plan (see below), and some unexpected price inflation as Greggs attempted to recover greater-than-expected cost inflation with prices increases, which had no noticeable impact on transactions, per management.

Exhibit 1: Revenue and profitability



Source: Greggs, Edison Investment Research

The long-term strategic vision remains the same, but in January 2020 management launched the Next Generation Greggs programme, with the aim of increasing customer loyalty and choice, and widening distribution of Greggs' products across multiple channels and more dayparts. Following the initial disruption caused by the COVID-19 pandemic in Q120, management decided to accelerate the programme as the pandemic had accelerated the expected change in customer behaviour. At the October 2021 capital markets day (CMD), management quantified how it expects Next Generation would drive growth, setting an 'ambitious' five-year (to FY26) target to double revenue to c £2.4bn, with four key growth drivers:

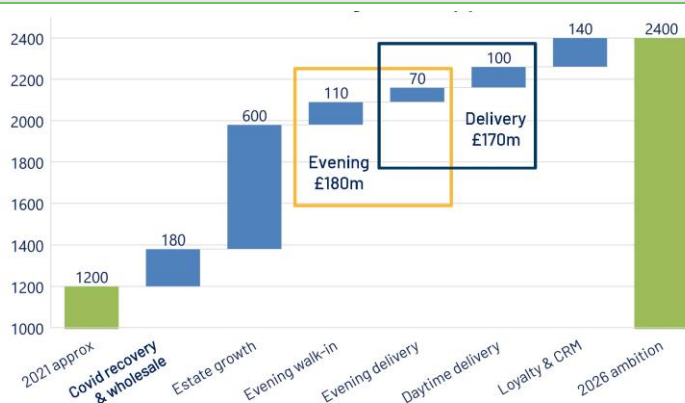
- **Growing and developing the estate** – at the time management's ambition was to grow the estate to at least 3,000 locations (from 2,181 end FY21 and 2,328 end FY22), while improving the size and quality of the locations as well as the service offered. Management's increased

confidence in the strategy means it now refers to a 'clear opportunity for significantly more than 3,000 UK shops in time'. As recently as the FY20 results, management was indicating the potential for a store portfolio of c 2,500 by FY24, therefore the plan represents a significant acceleration in store growth.

- **Digital channels** – new digital channels, delivery and C&C will help Greggs compete more effectively at all times of the day. Delivery helps Greggs to extend its reach beyond walk-in customers, and C&C offers customers greater choice, availability and convenience.
- **Evening trade** – extending trading hours beyond the traditional opening hours with further menu enhancements, and leveraging all distribution channels, will enable Greggs to compete in the new evening daypart.
- **Broadening customer appeal and driving loyalty** – the brand has been successfully repositioned in recent years. With timely and effective customer communication via the new Greggs App, website and customer relationship (CRM), management believes Greggs can appeal to more customers on more occasions when they need food-on-the-go.

All of the above will be enabled by higher investment in the supply chain and systems to support the expected growth and new services, and are underpinned by the Greggs Pledge (ongoing improvement in its ESG credentials and continuing to act responsibly).

Exhibit 2: Management's expected revenue bridge FY21–26 (£m)



Source: Greggs capital markets day presentation, October 2021

Leaving aside the post COVID-19 recovery to prior trading levels, we consider in the sections below the key drivers to revenue growth.

While management provided a revenue target for FY26, there was no guidance for expected profitability. It hoped to maintain existing levels of profitability from natural cost leverage leading to underlying margin expansion (subject to the unpredictable nature of input cost inflation), which has to support an indicated 0.5–1.0 margin point pa for incremental investment in sustainability.

Beyond its UK aspirations, management has highlighted the potential to seek growth internationally or by acquiring another brand, potentially after 2024, the peak year of its capital investment plan.

In the video below, Chief Financial Officer Richard Hutton gives an overview of Greggs' medium-term growth strategy and the progress made in FY22.

Exhibit 3: Video overview by CFO Richard Hutton


Source: Edison Investment Research

A bigger and better estate

At the 2021 CMD, management estimated estate growth (ie space growth and like-for-like growth from company-managed and franchise stores) would contribute half of the expected incremental revenue growth through FY26.

Prior to this, Greggs typically opened 90–100 net new stores pa, but the 2021 plan accelerated this to 150 net new stores pa. The regular growth profile of the new store additions suggests the anticipated incremental revenue should be relatively linear, subject to relative store sizes, the maturity profile of new stores and the intra-year phasing.

The opportunity to scale more quickly is due to a number of contributing factors:

- greater opportunities (ie more vacancies and lower costs) in the property market as a result of the COVID-19 pandemic, which is helping to open up underpenetrated geographies, for example London, and locations, for example railway stations;
- other recent initiatives such as C&C and delivery have improved and will continue to help improve the store-level economics (ie higher sales densities without a commensurate increase in costs); and
- the strength and financial security of the Greggs brand and more versatile store formats enable it to now access more different types of location than previously.

Within the 2021 target of 150 net new stores pa, 100 will be company-managed stores and 50 will be franchises, and there will be 50 relocations a year of company-managed stores. With respect to the latter, the company now targets c 40 relocations per year. The acceleration in net store growth is due to greater expected growth from company-managed stores, which historically ranged from net 12 store closures to 57 net openings pa between FY15 and FY19 (we exclude FY20 due to the outbreak of the COVID-19 pandemic). The number of expected net franchise openings is consistent with more recent years (40–60 pa from FY15–19). Greggs does not disclose details of area traded in its stores, but we believe the average store size is likely to increase, which will, in part, be required to support the growth from newer channels (see below), as well as the provision of seating in more stores.

In addition to the acceleration in net store growth above, management guided to the number of refurbishments/refits to accelerate during the five-year plan to 250–300 locations pa, an increase from 57–202 pa from FY15–19.

In the first full year of the plan (ie FY22), Greggs added 147 net new stores, so the company is making good progress, and management has reiterated that 150 net new stores will be added in FY23.

The higher rate of store expansion leads to the obvious question of whether management is over-extending, as happened in the wider restaurant space pre-COVID-19. Here, management points to the belief that shop density is currently lower than it could be, the greatest opportunities are outside traditional towns and suburban locations where it is well represented already, and even in the 'top postcode' Greggs continues to open new shops. With respect to shop density, management's assumption of one store to 20,000 people to reach the target of at least 3,000 stores compares with the current density of one to 30,000 people, and versus the current top postcode of one to 15,000. An interesting example of Greggs' under-penetration and aspiration is provided by London. At the time of the 2021 CMD Greggs operated only 19 stores in central London. Since then Greggs has opened stores in prime locations such as Leicester Square and Liverpool Street Station taking the total to 36.

More multi-channel and dayparts

The aspiration to grow sales from more channels (ie delivery and C&C to complement traditional walk-in) and sales in more dayparts (ie the under-penetrated evening in addition to traditional day time) should drive sales densities for the stores and improve store-level contribution given relatively limited marginal operating costs.

In aggregate, at the 2021 CMD management targeted incremental sales from FY22–26 of £280m (c 23% of the total growth target) from a combination of growing evening walk-in sales (£110m), evening delivery (£70m) and daytime delivery (£100m). Although management was specific about the expected breakdown between the three revenue streams, in reality there is some uncertainty about the breakdown of the expected incremental evening revenue (£180m) by channel and delivery revenue (£170m) by daypart. The estimated incremental evening revenue assumes Greggs can achieve two-thirds of its lunchtime market penetration in the shops that extend their opening hours, and c 40% will be via delivery from the current 20%. With a more established infrastructure in place and an established track record, delivery is likely to produce more growth in the near term than evening trading, which requires greater development of the menu and improved CRM.

More channels of distribution

Following successful trials that began before the pandemic with Deliveroo, Uber Eats and Just Eat, the decision was taken to roll-out the delivery service via an exclusive partnership with Just Eat. In July 2020 the plan was extended with a view to providing nationwide coverage of major cities from 600 stores by the end of FY20. The move reflected the increasing importance of delivery to how people consume food with increased convenience provided by the expansion of companies such as Just Eat. Management believes the motive for using delivery has evolved/is evolving from being mainly based on a lack of desire to cook to it being considered an affordable and regular treat, and therefore a more attractive growth prospect.

The availability of Greggs' delivery service has evolved quickly, increasing to 1,000 stores by the end of FY21 and 1,270 stores, around two-thirds of the company-managed locations, by the end of FY22. During the COVID-19 pandemic, delivery provided a much-welcome support to Greggs'

revenue. Through the first nine months of FY21 (9M21), delivery represented a relatively consistent c 8–10% of company-managed store sales, having increased from 5.5% in Q420. As life has gradually returned to normal after the pandemic, delivery's contribution has naturally reduced to c 5% of company-managed sales in FY22 but has grown in absolute terms. A key focus for the coming year is to increase delivery's reach across the store portfolio and raise operational standards.

Sales through the delivery channel have a higher average transaction value of c £10 than walk-in of c £4 given the order is typically for more than one person. The gross margin for delivery is lower than average given the aggregator's platform fee, partially mitigated through premium pricing on products, and Greggs benefits further down the income statement from leveraging the fixed store operating costs.

At the time of the CMD, management indicated that 95% of Greggs' delivery revenue was generated before 4pm, which compares to its estimates that almost half of the overall delivery market revenue is earned after 5pm. Therefore, the evening market is largely untapped by Greggs and represents a significant opportunity, subject to changes in the menu offer etc.

Greggs' C&C service, available on the website and app, allows customers to order in advance and choose where and when to collect the order from a dedicated in-store collection point. It was rolled out to all company-managed stores from September 2020. The consumer benefits from an easier and better shopping experience, with more time to browse the menu and collection from a dedicated collection point reducing the need to queue, a greater guarantee of availability of food, as well as more opportunity to personalise the order given the greater time between order and collection. The key focus for 2023 is to improve the customer's collection experience, ensuring customers collect the correct order on time with a good in-shop journey. Greggs is looking to include dedicated collection points in new shops and refurbishments where appropriate.

More dayparts

The post 4pm dinner market, at an estimated c 38% (source: Greggs CMD 2021 presentation) of the total FOTG market (which simplistically excludes supermarket food bought and prepared at home, and full-service restaurant/pub food) makes it the largest daypart. Due to Greggs' historical product offer and focus on primarily the lunch and, more latterly, breakfast markets, its share of the FOTG dinner market was estimated by management to be c 1% in FY22, well below its share of the breakfast market of 9.9%, lunch 6.8% and snacks 5.1% in 2019, as highlighted at the CMD.

In aggregate, management estimated its total FOTG market share at 7.7% of visits in FY22 versus 6.5% in FY19. Irrespective of the move into evening trading, management is optimistic of future share gains as it looks to invest in customer loyalty, choice and developing new channels.

Greggs began experimenting with extending its trading hours to the evening in the autumn of 2019, following some initial development of the menu to offer items more suited to the evening, for example pizzas, and investment in hot food cabinets. The initial trials, before Greggs had a delivery channel, indicated, as might be expected, that evening trading may not be appropriate for all locations but was successful in high footfall locations such as city centres and travel hubs. With delivery in place management believes more locations become viable in the evening, not just those with high footfall.

While products such as pizza slices and chicken goujons have proved to be popular, to drive growth the menu has been enhanced (salads and hot and cold meal boxes) with further enhancements expected (eg more sides and chicken options), and customisation has begun, initially with pizzas and new trials of customisable sandwich baguettes.

By the end of FY22, Greggs had extended the opening hours of 500 shops until 8pm or beyond from just over 100 stores at the end of the prior year. In the coming year, the opening hours of 300 shops will be extended to 9pm and Greggs will trial 24-hour drive-thru shops.

Loyalty and CRM: Greater rewards

Improving customer loyalty is seen as a key opportunity in making further market share gains, with a 'difficult to gauge' estimate, per management, that improved CRM has the potential to generate £140m revenue by FY26, equivalent to about c 12% of the incremental revenue growth over the period. Management believes that a combination of raising awareness and improved messaging and targeting will drive a combination of increasing frequency of purchase and spend per visit.

Unlike many of its competitors, Greggs does not significantly invest in above-the-line advertising, given the view that direct sight (ie in-store advertising and promotion), word of mouth and social media channels are more cost-effective and efficient.

Central to its ambitions is the Rewards loyalty scheme (originally launched in 2014) and the revamped Greggs app, which enables Greggs to engage with customers more frequently. The app has achieved impressive growth in the last 12 months, increasing from 0.4m active customers in Q421 to 1.1m in Q422, and the app was scanned in 8.1% of visits to the company-managed stores in Q422 versus c 5% in Q122.

The early signs are encouraging; in the last 12 months Greggs has achieved good improvements in customer awareness, consideration and purchase intent, as shown in its results presentation.

Supply chain and infrastructure: Ongoing evolution

Supporting the above growth drivers is ongoing investment in the supply chain and technology. The 2013 strategy to transition Greggs from a traditional bakery retailer to focus on the growing FOTG market required improving the quality of the existing estate and format over two to three years and increasing the capacity of the supply network via a five-year £25m investment in processes and systems to centralise operations where possible to support over 2,000 stores. As part of the transformation, the in-store bakeries were consolidated to a regional bakery network.

A new five-year £100m investment programme began in 2016, with the aim of upgrading its national manufacturing and distribution infrastructure, moving from a traditional decentralised bakery model to a centralised 'food-to-go' model. The objective was to have enough capacity to support 'substantially beyond 2,000' outlets from 'national centres of excellence' in specified products, and the addition of new distribution centres. As the programme progressed, it changed as opportunities were identified to increase efficiencies in the network, for example building an automated frozen distribution facility that would help to reduce the reliance on third-party suppliers and extending the programme to completion in 2021.

In the current five-year plan, there is further investment in the supply chain, including additional production lines, a second automated freezer and more distribution capacity. Management is in the process of determining the optimal locations for future capacity.

In addition to the investment in infrastructure above, which has constituted the bulk of capex, Greggs has invested in technology and processes to free staff time to devote to customer service, improve food availability as well as derive efficiencies. Greggs began the roll-out of SAP in 2015, and the deployment across the supply chain was completed in FY22. Management believes the core IT infrastructure is well invested, therefore in the next five years the focus of technology spend

will shift to a greater focus on digital engagement with customers, as well as ongoing investment in making operations more efficient and systems upgrades.

The overall expected capital investment programme to support the aspiration to double revenue by FY26 was quantified at the time of the CMD in October 2021 at c £890m from FY22–26, with peak investment of £214m in FY24. Incorporating FY22's actual capex spend of c £111m and the recently updated guidance with some slight shifts in phasing for spend in the next four years (£200m, £220m, £200m and £190m, respectively) take the cumulative spend to c £921m, an increase of c 4% since the CMD in 2021, which reflects greater economy-wide inflation.

Menu: Continuous innovation and range extension

Greggs has purposefully extended and improved the quality of its product range to tailor it to the demands of the FOTG customer and market, offering a more varied menu across the differing dayparts, while retaining its strong heritage in bakery, which has been successful in driving sales growth. The product offer is differentiated from many competitors by the way it is freshly prepared in the shop with the aim of delivering an 'Always Fresh, Always Tasty.' experience. The aim of new product launches is to provide customers with new reasons to visit Greggs. With respect to pricing, outstanding value for money is a key attribute of the offer, meaning Greggs will not aim to match the lowest prices across all competing products but will aim to be highly competitive against rivals.

Key developments in the evolution of the past and future product offer have included:

- **Healthier dietary choices:** a key focus of the offer is providing good, freshly prepared products, and, indeed, Greggs has improved the quality of the ingredients over time. It has also been at the forefront of offering more healthy food by reducing sugars, salts and fats in its products, and offering new products that suit a wider range of dietary requirements. In 2021, Greggs rolled out full labelling for sandwiches made in shops, which made it compliant with Natasha's Law. The vegan offer has increased, including the January 2019 launch of the infamous vegan sausage roll, which has been followed by the launches of vegan versions of customers' favourites since then. In 2019, Greggs reduced the sugar content of its sweet bakery range by 20%, one year ahead of the Public Health England (PHE) guidelines, and by 2020 it had removed 20% of the sugar from its pastries, yoghurts, biscuits and cakes, with a commitment to reduce the calories and salt in a third of products over the next four years so they meet or exceed PHE recommendations.
- **Breakfast:** as highlighted earlier, extending trading into the breakfast daypart and growing its market share has been a key driver to Greggs' revenue growth for most of the last decade. This has been achieved through longstanding competitive 'meal' offers and range extensions such as croissants, porridge, fresh fruit and breakfast baguettes. It has also been helped, as have other dayparts, by the continuous improvement of the quality of coffee offered and investment in in-store coffee machines, to attract new customers. In volume terms, Greggs is now number three in the UK take-out coffee market behind Costa Coffee and McDonald's.
- **Hot food:** while Greggs always had heating equipment for its baked products in store, there were modest range extensions, for example the offer of soups and hot sandwiches, ahead of the investment in hot self-serve cabinets from 2018.
- **Made to order:** increasing the number of made-to-order options should help with Greggs' aspiration to grow its C&C revenue. The near-term focus is on pizzas, before offering made-to-order baguettes, salads, and hot and cold meal boxes.

Management

Chief executive: Roisin Currie. Roisin became CEO in May 2022, with previous roles as people director, retail director and property director. Roisin has been a member of the operating board since 2010 and has played a key role in the development of the recent strategic plans. She has been with Greggs since 2010, following 19 years as retail people director at Asda Wal-Mart.

Chief financial officer: Richard Hutton. Richard qualified as a chartered accountant with KPMG and gained career experience with Procter & Gamble before joining Greggs in 1998. He was appointed CFO of Greggs in May 2006. He is also a non-executive director of The Lakes Distillery Company and a director of Business in the Community.

Sensitivities

We see the main sensitivities as:

- Greggs is clearly exposed to the outlook for consumer disposable incomes and spending, which is under greater pressure than it has been for many years. The Office for Budget Responsibility's March 2023 *Economic and fiscal outlook* report predicted a cumulative decline in real household disposable income per person of 5.7% over the two financial years 2023–24, albeit slightly lower than the decline predicted in its November 2022 report. These would represent the largest two-year falls since records began in the mid-1950s.
- Greggs is exposed to staff and input (food and utilities) cost pressures. The disclosed cost profile in descending order of importance in FY22 (FY21 in brackets) was: people 37% (40%), food inputs 33% (29%), other 13% (13%), shop occupancy 8% (8%), depreciation 5% (6%) and energy/fuel 4% (4%). The company experienced 9% underlying cost inflation in 2022, versus initial expectations of 6–7%, following the outbreak of the war in Ukraine. For FY23, management has indicated underlying cost inflation of 9–10% in FY23, mainly driven by higher staff cost inflation than FY22, but lower underlying food cost inflation than FY22.
- Execution risk is a constant. Greggs is undertaking a major infrastructure investment programme, while increasing its store portfolio away from traditional shopping locations, and is trying to develop new revenue streams, for example in new dayparts. Greggs has a strong track record of major supply chain consolidation and implementation of new technology and systems. The shift in store locations reflects that many traditional retail locations are being marginalised, while FOTG has natural relevance to other locations. Although Greggs' estate policy as well as its renewed offer address this threat, the risk remains that the market switch could be more difficult than management can address.
- Greggs' growth strategy is partly dependent on its success in developing further its B2B exposure, that is franchises and wholesale, and is therefore dependent on the expansion plans of others. B2B represented c 11% of Greggs' revenue in FY22, consistent with the prior year level.
- Like all consumer-facing companies, Greggs is exposed to the longer-term effects from COVID-19 such as changes to working and shopping patterns including potentially less travel to city centres.
- Following the UK's exit from the EU, there remains potential for changes to regulations and supply chain disruption, including delays to the import of goods. Approximately one-third, by value, of Greggs' food requirements are imported.

Financials

Greggs' FY22 results were broadly in line with our most recent forecasts, and PBT was in line with management's guidance from the start of the year (ie for limited profit growth), which is impressive given the weakening macroeconomic outlook and significant increase in cost inflation through the year versus initial expectations due to the effects of the war in Ukraine.

Income statement: A different route than initially expected

At the [start of FY22](#) we forecast strong year-on-year revenue growth of c 16% to £1,429m and limited growth in PBT to £146.9m (FY21: £145.6m). The forecasts included our assumptions for the phasing of the expected revenue growth from the recently announced five-year growth plan, underlying cost inflation of 6–7% and the return of business rates to the income statement of £15m. With higher underlying inflation of 9% in FY22 than initially expected, Greggs delivered 23% revenue growth to £1,512.8m, 6% higher than we initially forecast, while PBT came in at £148.3m, c 1% higher.

The table below shows Greggs' reported results for FY22, our new estimates for FY23 and FY24, and we introduce estimates for FY25. Our PBT forecasts increase from £160.2m to £161.2m for FY23 and from £182.4m to £183.1m for FY24, as we carry forward the slight beat versus our FY22 estimates.

Exhibit 4: Summary income statement

£m	2018	2019	2020*	2021	2022	2023e	2024e	2025e
Sales	1,029.3	1,167.9	811.3	1,229.7	1,512.8	1,710.8	1,902.9	2,122.5
Growth y-o-y (%)	7.2	13.5	(30.5)	51.6	23.0	13.1	11.2	11.5
Store growth (%)	5.3	5.0	1.4	5.0	6.7	6.4	6.1	5.7
Gross profit	655.9	755.7	511.7	782.0	938.3	1,055.1	1,170.4	1,302.1
Gross margin (%)	63.7	64.7	63.1	63.6	62.0	61.7	61.5	61.3
Gross margin leverage (%)	63.4	72.1	68.4	64.6	55.2	59.0	60.0	60.0
Operating costs	(510.1)	(523.8)	(396.3)	(523.0)	(668.4)	(750.1)	(818.5)	(908.1)
% of sales	49.6	44.8	48.8	42.5	44.2	43.8	43.0	42.8
EBITDA	145.7	231.9	115.4	259.0	269.9	305.0	351.9	394.1
Margin (%)	14.2	19.9	14.2	21.1	17.8	17.8	18.5	18.6
Depreciation and amortisation	(55.9)	(111.2)	(121.6)	(105.8)	(115.5)	(136.1)	(160.6)	(182.9)
Operating profit before exceptionals	89.8	120.7	(6.2)	153.2	154.4	168.9	191.3	211.2
Margin (%)	8.7	10.3	(0.8)	12.5	10.2	9.9	10.1	9.9
PBT before exceptionals	89.8	114.2	(12.9)	145.6	148.3	161.2	183.1	202.6
Normalised EPS (FD) (p)	70.3	89.7	(12.1)	114.3	117.5	119.1	131.7	145.8
Ordinary DPS (p)	35.7	11.9	0.0	57.0	59.0	59.6	65.9	72.9
Special DPS (p)	0.0	35.0	0.0	40.0	0.0	0.0	0.0	0.0

Source: Greggs, Edison Investment Research. Note: *53 weeks.

Through FY22, Greggs achieved like-for-like sales growth in company-managed stores of 17.8%, which was boosted by price increases, albeit the price increases lagged input cost inflation, and a growing contribution from evening walk-in sales (adding 1.5% incremental sales to become c 7% of company-managed sales by the year-end), while we estimate delivery's contribution declined by c 1% to c 5% of company-managed sales, slightly below management's expectations.

We have amended the phasing of our revenue growth estimates of the five-year plan to take into account the results delivered in FY22, with better growth from estate expansion and COVID-19 recovery than initially expected, offset by slower growth from Greggs' delivery revenue. We forecast a revenue CAGR of c 12% through FY23–25.

Management's initial view was that underlying cost inflation in FY22 would be 6–7%, and the return of business rates of £15m to the income statement following temporary relief during the pandemic would dampen profit growth. Underlying cost inflation for the year turned out at 9%, 2–3% higher

than initially expected, with the main incremental drag being food inputs, which represented a relative incremental 4% of sales versus FY21.

The under-recovery of mid-teens like-for-like food cost inflation in FY22 versus 8% price recovery led to a decline in Greggs' gross margin of 160bp to 62.0% from FY21's 63.6%. As prices were increased at a slower rate than input costs through FY22, the differential will be supportive for gross margin in the coming year as food price inflation reduces. Food and packaging inflation surged from mid-2022, therefore the company will annualise the greater rates of inflation by the end of H123. We forecast a gradual de-leveraging of Greggs' gross margin through FY23–25 to reflect the lower gross margin on delivery sales and sales where the customer scans the App; the former is helped by cost recovery further down the income statement. Our assumption of 59–60% operational gearing at the gross margin level (ie how much incremental revenue flows through to gross profit) for FY23–25 compares with Greggs' historical average of c 63% for FY13–22.

The deleveraging of distribution and selling costs in FY22 was wholly attributable to the return of business rates to the income statement of £15m or 1% of sales. The underlying cost base benefited from better shop leasing costs and leverage from price and volume. Administration costs benefited from the expected leverage from the high revenue growth.

We assume gradual reductions of distribution, selling and administration costs relative to revenue in FY23–25.

The increase in the standard rate of corporation tax has been incorporated into management guidance, which is for a group rate of 24% in FY23 and 26% in FY24. This will translate to lower growth in net income, which we estimate at a three-year CAGR of 7%, lower than for profit before tax, for which we estimate a three-year CAGR of 11%.

Cash flow and balance sheet: Cash higher ahead of investment

Over the long term, and prior to the outbreak of COVID-19, Greggs enjoyed improving free cash flow generation relative to revenue as its profitability increased. Since the pandemic began, free cash flow generation has been more variable due to the required store closures and other operating restrictions, which affected working capital investment.

Exhibit 5: Summary cash flow

As % of sales:	2018	2019	2020*	2021	2022	2023e	2024e	2025e
Operating cash flow	13.2%	18.8%	5.4%	23.2%	16.6%	16.2%	16.5%	16.6%
Operating profit	8.7%	10.3%	(0.8%)	12.5%	10.2%	9.9%	10.1%	9.9%
Net profit	6.4%	7.4%	(1.6%)	9.6%	8.0%	7.2%	7.1%	7.1%
D&A and impairments	5.5%	9.5%	15.6%	8.4%	7.7%	8.0%	8.4%	8.6%
Working capital	1.2%	1.8%	(7.3%)	4.5%	0.4%	0.9%	0.7%	0.7%
Tax paid	(1.6%)	(1.7%)	(1.3%)	(1.6%)	(0.9%)	(2.3%)	(2.5%)	(2.5%)
Interest paid	0.0%	(0.6%)	(0.9%)	(0.6%)	(0.5%)	(0.5%)	(0.5%)	(0.4%)
Capex and intangibles	(6.3%)	(7.5%)	(7.4%)	(4.4%)	(6.8%)	(11.7%)	(11.6%)	(9.4%)
Free cash flow pre-interest	6.9%	11.8%	(1.1%)	19.4%	10.4%	5.0%	5.4%	7.6%
Cash at end (£m)	88.2	91.3	36.8	198.6	191.6	155.7	127.2	147.4
Net debt/(cash) excluding leases (£m)	(88.2)	(91.3)	(36.8)	(198.6)	(191.6)	(155.7)	(127.2)	(147.4)
Net debt/(cash) including leases (£m)	N/A	184.4	254.9	84.6	109.7	160.5	204.0	198.7

Source: Greggs, Edison Investment Research. Note: *53 weeks.

Since FY13, fixed capital investment has been a relatively consistent 6–8% of sales, but the five-year investment plan will see fixed asset investment peaking at £200m, £220m and £200m in FY23–25. In anticipation of the expected peak in investment, management has built up its cash reserves, to c £192m at the end of FY22, versus c £90m in the two years ahead of COVID-19. Management typically aims to hold net cash of £50m at the year end to support working capital requirements.

Shareholders have been well rewarded with ordinary dividends (progressive dividend policy with dividend cover of 2x by diluted earnings) and special dividends, which have become frequent in recent years (ie in FY15, FY19 and FY21). Management has been clear that further special dividends are unlikely to be declared during the next few years as the capital investment peaks.

Greggs has no debt apart from operating leases, which totalled c £301m at the end of FY22, but it has a £100m revolving credit facility that was undrawn at the end of FY22.

Valuation

Our revised DCF-based valuation increases to c £30.50/share (£29.70 previously).

DCF valuation

Our 10-year DCF valuation assumes Greggs achieves its FY26 target with an EBIT margin of 10%, followed by a quick fade to 3% revenue growth in our terminal year, FY32, and then terminal growth of 2%. After the indicated capital investment programme, we assume fixed capital investment of 5% of sales and working capital investment of 1% of sales, which are in line with historical trends. In addition, we include an imputed outflow for right-of-use assets of 3% of sales.

We factor in a cost of capital of 8.5% (8.2% previously) as we factor in higher bond yields (3.3%) compensated for by a lower market risk premium (4%). The table below shows the sensitivity of our valuation of Greggs to changes in the cost of capital and terminal growth rate assumptions.

Exhibit 6: DCF sensitivity (pence per share)

		WACC				
		7.5%	8.0%	8.5%	9.0%	9.5%
Terminal growth	1.0%	3,289	3,000	2,750	2,533	2,342
	1.5%	3,490	3,166	2,888	2,649	2,441
	2.0%	3,728	3,359	3,048	2,782	2,552
	2.5%	4,014	3,588	3,234	2,935	2,680
	3.0%	4,364	3,862	3,453	3,113	2,827

Source: Edison Investment Research

Peer comparison

Below we show how Greggs' revenue growth, profitability and valuation compare with three set of peers: UK restaurants and pubs, UK restaurants and UK food retailers, all annualised to Greggs' December year-end.

Exhibit 7: Peer valuations

	Share price (local ccy)	Ccy	Market cap (local m)	Sales growth CY23 (%)	Sales growth CY24 (%)	EBIT margin CY23 (%)	EBIT margin CY24 (%)	EV/sales CY23 (x)	EV/sales CY24 (x)	P/E CY23 (x)	P/E CY24 (x)	Div. yield CY23 (%)	Div. yield CY24 (%)
Domino's Pizza Group	274	GBp	1,151	2	7	18.3	18.2	2.7	2.5	15.0	13.5	3.7	4.0
Loungers	206	GBp	212	16	17	8.2	8.5	1.1	1.0	18.7	14.7	0.0	0.0
Marston's	49	GBp	309	4	4	15.8	16.1	2.2	2.1	5.6	4.4	0.0	0.0
Restaurant Group	51	GBp	385	5	6	5.0	5.8	1.0	0.9	29.8	17.3	0.0	1.8
SSP Group	260	GBp	2,058	28	11	5.6	6.8	1.0	0.9	29.0	17.7	1.5	2.5
J D Wetherspoon	560	GBp	716	6	5	5.4	5.9	1.1	1.1	23.2	16.7	0.3	0.5
UK restaurants and pubs median				5	6	6.9	7.6	1.1	1.0	21.0	15.7	0.2	1.1
Domino's Pizza	390.1	US\$	13,999	2	5	17.0	17.5	3.5	3.3	24.2	21.3	1.5	1.7
McDonald's	264.2	US\$	195,410	5	6	45.2	45.9	9.5	8.9	25.5	23.1	2.3	2.4
Starbucks	84.9	US\$	97,383	11	12	15.9	16.6	3.4	3.0	27.6	23.1	2.2	2.4
Wendys	21.2	US\$	4,546	6	4	17.8	18.6	3.2	3.1	21.2	18.5	4.8	5.2
Yum! Brands	122.7	US\$	35,001	6	7	33.0	33.5	6.5	6.0	24.8	21.5	1.9	2.1
US restaurants median				6	6	17.8	18.6	3.5	3.3	24.8	21.5	2.2	2.4
J Sainsbury	221	GBp	5,133	2	1	3.0	3.0	0.4	0.4	12.7	12.3	4.8	4.8
Tesco	265	GBp	19,697	4	2	3.9	4.0	0.4	0.4	12.0	10.9	4.2	4.6
UK food retailer median				3	1	3.4	3.5	0.4	0.4	12.4	11.6	4.5	4.7
Greggs	2,706	GBp	2,763	13	11	9.9	10.1	1.5	1.3	22.7	20.5	2.2	2.4
Greggs premium/(discount) to UK restaurants median								33%	32%	8%	31%	1264%	119%
Greggs premium/(discount) to US restaurants median								(57%)	(59%)	(8%)	(5%)	(1%)	1%
Greggs premium/(discount) to UK food retailer median								279%	245%	84%	77%	(51%)	(48%)

Source: Refinitiv, Edison Investment Research. Note: Priced at 20 March 2023.

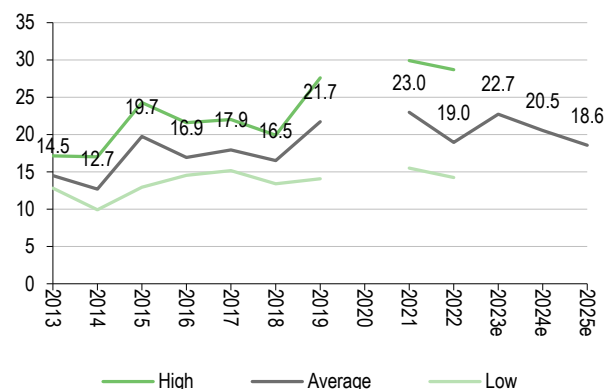
Our forecasts of low-double-digit revenue growth for Greggs in FY23 and FY24 compare favourably with the majority of the highlighted peers, while our estimated profitability (EBIT margin of 9.9% and 10.1% in FY23 and FY24) surpasses the medians for the separate UK-listed industry groups, but not the US-listed restaurants. Greggs' premium revenue growth and profitability compared to the majority of the UK-based peers justifies a higher EV/sales and P/E multiples, but it is valued at a discount to its US-listed peers.

Valuation relative to own history

In the charts below we show Greggs' prospective EV/sales and P/E multiples versus the annual high, average (quoted) and low multiples since 2013, when the new strategy was introduced. Our calculation of enterprise value (EV) excludes IFRS 16 liabilities to enable a direct comparison across times, and therefore the indicated EV/sales multiples differ slightly to the prior section, as these include IFRS 16 liabilities. We also exclude FY20 in Exhibit 9 given the reported loss that arose because of the COVID-19 pandemic.

Exhibit 8: Greggs' EV/sales multiple (x)


Source: Greggs, Edison Investment Research. Note: Priced at 28 March 2023.

Exhibit 9: Greggs' P/E multiple (x)


Source: Greggs, Edison Investment Research. Note: Priced at 28 March 2023.

Greggs' higher revenue growth and improved profitability has been rewarded with a gradual re-rating through FY19, with the higher EV/sales multiples in FY20 and FY21 reflecting the disruptions caused by the COVID-19 pandemic.

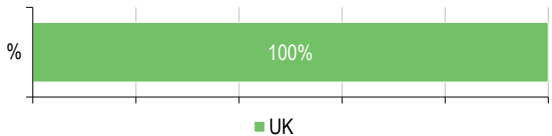
The prospective EV/sales multiples of 1.5x, 1.3x and 1.2x for FY23–25 represent a rightful premium to the average from FY13–19 of 1.1x, given the higher expected revenue growth rates through the five-year growth plan, and higher EBIT margins of c 10% versus the FY13–19 average of 8.3%.

Similarly, the prospective P/E multiples of 22.7x, 20.5x and 18.6x are rightfully higher than its long-term average multiple from FY13–19 of 17.1x, but below peak multiples of over 20x and up to c 30x.

Exhibit 10: Financial summary

	£m	2020	2021	2022	2023e	2024e	2025e
Year-end 31 December		IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS							
Revenue		811.3	1,229.7	1,512.8	1,710.8	1,902.9	2,122.5
Cost of Sales		(299.6)	(447.7)	(574.5)	(655.7)	(732.5)	(820.3)
Gross Profit		511.7	782.0	938.3	1,055.1	1,170.4	1,302.1
EBITDA		115.4	259.0	269.9	305.0	351.9	394.1
Operating profit (before amort. and excepts.)		(6.2)	153.2	154.4	168.9	191.3	211.2
Intangible Amortisation		0.0	0.0	0.0	0.0	0.0	0.0
Exceptionals		(0.8)	0.0	0.0	0.0	0.0	0.0
Operating Profit		(7.0)	153.2	154.4	168.9	191.3	211.2
Net Interest		(6.7)	(7.6)	(6.1)	(7.7)	(8.2)	(8.5)
Profit Before Tax (norm)		(12.9)	145.6	148.3	161.2	183.1	202.6
Profit Before Tax (FRS 3)		(13.7)	145.6	148.3	161.2	183.1	202.6
Tax		0.7	(28.1)	(28.0)	(38.7)	(47.6)	(52.7)
Profit After Tax (norm)		(12.2)	117.5	120.3	122.5	135.5	149.9
Profit After Tax (FRS 3)		(13.0)	117.5	120.3	122.5	135.5	149.9
Average Number of Shares Outstanding (m)		101.0	101.5	101.5	102.0	102.0	102.0
EPS - normalised fully diluted (p)		(12.1)	114.3	117.5	119.1	131.7	145.8
EPS - (IFRS) (p)		(12.9)	115.7	118.5	120.1	132.8	147.0
Dividend per share (p)		0.0	97.0	59.0	59.6	65.9	72.9
Gross Margin (%)		63.1	63.6	62.0	61.7	61.5	61.3
EBITDA Margin (%)		14.2	21.1	17.8	17.8	18.5	18.6
Operating Margin (before GW and except.) (%)		(0.8)	12.5	10.2	9.9	10.1	9.9
BALANCE SHEET							
Fixed Assets		631.0	622.3	685.1	819.5	952.2	1,045.5
Intangible Assets		15.6	14.9	13.5	22.0	28.5	33.4
Tangible Assets		345.3	343.8	390.0	501.0	612.3	685.7
Right-of-Use Assets		270.1	263.6	281.6	296.5	311.4	326.4
Other		0.0	0.0	0.0	0.0	0.0	0.0
Current Assets		98.7	266.1	283.0	259.4	242.7	276.4
Stocks		22.5	27.9	40.6	46.3	51.8	58.0
Debtors		39.4	37.6	50.2	56.8	63.1	70.4
Cash		36.8	198.6	191.6	155.7	127.2	147.4
Other		0.0	2.0	0.6	0.6	0.6	0.6
Current Liabilities		(144.1)	(206.9)	(244.1)	(273.8)	(302.0)	(333.9)
Creditors		(91.1)	(153.4)	(191.7)	(218.8)	(244.4)	(273.7)
Leases		(48.6)	(49.3)	(48.8)	(51.4)	(54.0)	(56.6)
Short term borrowings		0.0	0.0	0.0	0.0	0.0	0.0
Other		(4.4)	(4.2)	(3.6)	(3.6)	(3.6)	(3.6)
Long Term Liabilities		(264.0)	(252.3)	(284.3)	(296.6)	(309.0)	(321.3)
Long term borrowings		0.0	0.0	0.0	0.0	0.0	0.0
Leases		(243.1)	(233.9)	(252.5)	(264.8)	(277.2)	(289.5)
Other long term liabilities		(20.9)	(18.4)	(31.8)	(31.8)	(31.8)	(31.8)
Net Assets		321.6	429.2	439.7	508.6	584.0	666.7
CASH FLOW							
Operating Cash Flow		61.6	312.1	272.3	323.8	369.8	413.9
Net Interest		(6.7)	(7.4)	(6.1)	(7.7)	(8.2)	(8.5)
Tax		(10.7)	(19.2)	(13.3)	(38.7)	(47.6)	(52.7)
Capex		(59.8)	(54.0)	(102.4)	(200.0)	(220.0)	(200.0)
Acquisitions/disposals		0.0	0.0	0.0	0.0	0.0	0.0
Equity financing		3.7	4.6	3.1	3.1	3.1	3.1
Dividends		0.0	(15.3)	(98.5)	(60.7)	(67.2)	(74.4)
Borrowings and lease liabilities		(42.1)	(49.0)	(52.7)	(55.6)	(58.4)	(61.2)
Other		(0.5)	(10.0)	(9.4)	0.0	0.0	(0.0)
Net Cash Flow		(54.5)	161.8	(7.0)	(35.9)	(28.6)	20.2
Opening cash		91.3	36.8	198.6	191.6	155.7	127.2
Other		0.0	0.0	0.0	0.0	0.0	0.0
Closing cash		36.8	198.6	191.6	155.7	127.2	147.4
Closing net debt/(cash) excluding leases		(36.8)	(198.6)	(191.6)	(155.7)	(127.2)	(147.4)
Closing net debt/(cash) including leases		254.9	84.6	109.7	160.5	204.0	198.7

Source: Greggs, Edison Investment Research

Contact details	Revenue by geography
<p>Greggs House Quorum Business Park Newcastle upon Tyne NE12 8BU United Kingdom +44 (0)191 281 7721 https://corporate.greggs.co.uk</p>	 <p>■ UK</p>
Management team	
<p>Chief executive: Roisin Currie</p> <p>Roisin became CEO in May 2022, with previous roles as people director, retail director and property director. Roisin has been a member of the operating board since 2010 and has played a key role in the development of the recent strategic plans. She has been with Greggs since 2010, following 19 years as retail people director at Asda Wal-Mart.</p>	<p>Chief financial officer: Richard Hutton</p> <p>Richard qualified as a chartered accountant with KPMG and gained career experience with Procter & Gamble before joining Greggs in 1998. He was appointed CFO in May 2006. He is also a non-executive director of The Lakes Distillery Company and a director of Business in the Community.</p>
Principal shareholders	(%)
Royal London Asset Management	6.0
BlackRock	5.1
Schroder Investment Management	5.0
MFS Investment Management	4.9
Fiduciary Management Inc	4.1
Aviva Investors	4.0
The Vanguard Group	3.1

General disclaimer and copyright

This report has been commissioned by Greggs and prepared and issued by Edison, in consideration of a fee payable by Greggs. Edison Investment Research standard fees are £60,000 pa for the production and broad dissemination of a detailed note (Outlook) following by regular (typically quarterly) update notes. Fees are paid upfront in cash without recourse. Edison may seek additional fees for the provision of roadshows and related IR services for the client but does not get remunerated for any investment banking services. We never take payment in stock, options or warrants for any of our services.

Accuracy of content: All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report and have not sought for this information to be independently verified. Opinions contained in this report represent those of the research department of Edison at the time of publication. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations.

Exclusion of Liability: To the fullest extent allowed by law, Edison shall not be liable for any direct, indirect or consequential losses, loss of profits, damages, costs or expenses incurred or suffered by you arising out of or in connection with the access to, use of or reliance on any information contained on this note.

No personalised advice: The information that we provide should not be construed in any manner whatsoever as, personalised advice. Also, the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The securities described in the report may not be eligible for sale in all jurisdictions or to certain categories of investors.

Investment in securities mentioned: Edison has a restrictive policy relating to personal dealing and conflicts of interest. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report, subject to Edison's policies on personal dealing and conflicts of interest.

Copyright: Copyright 2023 Edison Investment Research Limited (Edison).

Australia

Edison Investment Research Pty Ltd (Edison AU) is the Australian subsidiary of Edison. Edison AU is a Corporate Authorised Representative (1252501) of Crown Wealth Group Pty Ltd who holds an Australian Financial Services Licence (Number: 494274). This research is issued in Australia by Edison AU and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. Any advice given by Edison AU is general advice only and does not take into account your personal circumstances, needs or objectives. You should, before acting on this advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Product Disclosure Statement or like instrument.

New Zealand

The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (i.e. without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision.

United Kingdom

This document is prepared and provided by Edison for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This Communication is being distributed in the United Kingdom and is directed only at (i) persons having professional experience in matters relating to investments, i.e. investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "FPO") (ii) high net-worth companies, unincorporated associations or other bodies within the meaning of Article 49 of the FPO and (iii) persons to whom it is otherwise lawful to distribute it. The investment or investment activity to which this document relates is available only to such persons. It is not intended that this document be distributed or passed on, directly or indirectly, to any other class of persons and in any event and under no circumstances should persons of any other description rely on or act upon the contents of this document.

This Communication is being supplied to you solely for your information and may not be reproduced by, further distributed to or published in whole or in part by, any other person.

United States

Edison relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. This report is a bona fide publication of general and regular circulation offering impersonal investment-related advice, not tailored to a specific investment portfolio or the needs of current and/or prospective subscribers. As such, Edison does not offer or provide personal advice and the research provided is for informational purposes only. No mention of a particular security in this report constitutes a recommendation to buy, sell or hold that or any security, or that any particular security, portfolio of securities, transaction or investment strategy is suitable for any specific person.