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Consumer Staples

Factors in staples – Q4 update

We update our factor model for 4Q19: Last month we introduced a quantamental, factor-based approach to Global Consumer Staples equity investing in two reports; one providing a thematic overview (*A quant approach to Staples selection*, 26 Sept 2019) and one setting out formal technical details of our approach (*Quantamental factors for Consumer Staples*, 26 Sept 2019). Every quarter our model updates, reassessing its highest and lower-scoring quintiles, and also tweaking factor weighting with another period upon which to train. This is the first such quarterly update, using data as of the start of 4Q19.

Five changes to our highest-scoring quintile, four changes to our least: Kobayashi Pharmaceutical, Kose, Reckitt Benckiser, Sundrug and Treasury Wine Estates leave the top quintile. They are replaced by Coles, Dairy Farm, Lawson, Philip Morris and Pola Orbis. Alimentation, Campbell Soup, Casino and Woolworths leave the bottom quintile and are replaced by L'Oréal, NH Foods, Nissin Seifun and Toyo Suisan. Q3 is not a common period to report annual fundamentals, so these moves have primarily been driven by relative price movements and, to a lesser extent, forecast changes.

Continued outperformance of value in 3Q19 drove slight underperformance: The rotation into value from quality seen in 2Q19 continued into 3Q19, albeit much more gently. This saw our top quintile underperform the index by 81bp, although it outperformed the bottom quintile by 89bp. Our model re-evaluates factor weighting every quarter and modestly increased the importance it places on value factors at the expense of quality. This was a minor change; our model weights factors based on performance from 2008 onwards so the impact of any one quarter is limited.

Investor feedback sets out plenty of areas for further exploration: Since our initial publication on this topic we have had significant investor interest and feedback. For the most part fundamental equity investors have been interested in the importance of Free Cash Flow / Tangible Fixed Assets (TFA) as a metric, and we've had extensive requests for more data here. Our model's relative down-weighting of megacap companies has also been commented on, with some querying whether a linear relationship between market cap and model score is appropriate given how asymmetrically market cap is distributed around the median and mean. Quantitative investors have highlighted that much of systematic quantitative analysis tends to be on a whole-of-market basis, expressing interest in our sector-specific approach. We continue to engage with feedback and look to explore these themes in more detail in due course.

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PLEASE SEE ANALYST CERTIFICATION(S) AND IMPORTANT DISCLOSURES BEGINNING ON PAGE 4.

Equity Research

9 October 2019

INDUSTRY UPDATE

European Consumer Staples

NEUTRAL

Unchanged

Investment Sciences

North America Food & Staples Retailing

NEUTRAL

Unchanged

U.S. CHPC & Beverages

NEUTRAL

Unchanged

Investment Sciences

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We update the model detailed in *A quant approach to Staples selection* and *Quantamental factors for Consumer Staples* at the start of the new quarter.

The performance of the two back-testing approaches previously detailed; weighting the full index by score ('score weighted') and selecting the equal weight top 20% of scoring securities ('top quintile') continued to lag in Q3, albeit less than in Q2.

Model continues to lag post quality value rotation in Q2

The score-weighted approach in Q3 lagged the index by 75bps (risk normalised -0.31). This follows the 290bps lag that would have occurred in Q2, as quality-to-value rotation penalised the model's high weighting in Quality. Overall year-to-date cumulative performance for score-weighted is -5%. The top-quintile performance also lagged in Q3, by 81bps, although less than the bottom-quintile underperformance at 170bps.

Movers and shakers

Our model now incorporates return information from Q3 as well as updating factor values. The top quintile sees rotation of four five names, with four name changes in the bottom, as shown in Figure 1.

FIGURE 1

Changes in top and bottom-quintile names in Q4 2019

Names exiting top quintile	Kobayashi Pharmaceutical	Kose	Reckitt Benckiser	Sundrug	Treasury Wine Estates
Names entering top quintile	Coles	Dairy Farm Intl	Lawson	Philip Morris	Pola Orbis
Names exiting bottom quintile	Alimentation	Campbell Soup	Casino	Woolworths	
Names entering bottom quintile	L'Oréal	NH Foods	Nisshin Seifun	Toyo Suisan	

Source: Barclays Research, MSCI, Refinitiv

Q3 is not a common period for annual result announcements, although Campbell Soup, Coles, Treasury Wine Estates and Woolworths Group did release financials in the period, with factor changes across the board. Overall, the main factor driver of these entrants and exits appears to be relative price changes and pass-through effects on valuation and market cap factors. This is particularly telling in Sundrug and Treasury Wine Estates.

Changes in forecast values, particularly our organic growth proxy, were prevalent in Coles, Kobayashi and, to a lesser extent, Sundrug, Nisshin Seifun and Dairy Farm.

What about factor weight changes?

In addition to the effects of factor value changes, the returns information of a new quarter impacts the weight placed upon each factor. Those factors whose weights increase include (in decreasing order of magnitude) FCF yield, Price to Book, Buyback yield and one-year revenue forecasts. Similarly, factors with decreasing weight include indebtedness, FCF / TFA, proxy organic growth and market value.

Slight rebalance to value due to recent rotation

As one might expect following a quality value rotation, these weight changes represent the model rebalancing slightly to lessen the dominant Quality factor and increase related Value factors. The purpose of this model is to identify how factors influence return over long holding periods, rather than to react strongly to recent market trends.

Initial feedback

We welcome feedback on our approach and model...

We intend to incorporate investor feedback into further study and discussion of our model in addition to periodic updates. As one may expect, the most heavily weighted factor, FCF / TFA, has been prominently discussed. In particular, does this represent the ability of strong brands to maximise cash generation from fixed capital investment? Also discussed has been the extent to which this factor helps to separate out M&A related items (intangibles) in cash performance.

Can we do more on market value to move beyond simply penalising megacaps?

The other factors that have sparked discussion are those to which non-linearity appears to be present, notably market value and indebtedness. Penalising companies linearly due to their size has been queried, particularly with otherwise high-quality names in the mega cap portion of the sector. As noted in *A quant approach to Staples selection*, it would appear that whilst moderately small companies outperform, very small companies have a larger underperformance. Additionally, megacaps outperform on average, although with less magnitude. We presented a model that prioritised interpretability for discretionary investors, many of whom have intimated they can parse the limitations of the model in this regard. Nevertheless, we believe investigations of more nuanced approaches to these factors is merited.

Broadly, we noted investors' reactions to the approach of our model, which uses our sector specialists' knowledge to build a model that informs the discretionary narrative. Traditional factor models for security returns can often rely on large training sets across a whole asset class. Restricting factor modelling to a single sector is a less used approach. For a systematic approach, implementing sector-specific knowledge to build and interpret a model at scale, can be difficult. This is a representation of challenges and potential benefits of a quantamental approach. We received interest in applying this approach to other sectors, as well as isolating sub-sector behaviour; how would a similar model behave if only trained on staples retail? We aim not only to update the outputs of our model, but to detail and discuss possible improvements in a transparent way.

FIGURE 2

Top and bottom quintile scoring securities at the beginning of Q4 2019

Top-quintile securities	Sub Sector	Bottom-quintile securities	Sub Sector
Altria Group	Tobacco	Aeon	Retail
Barry Callebaut	Food	Anheuser-Busch InBev	Beverages
Brown-Forman 'B'	Beverages	Carrefour	Retail
Church & Dwight Co.	HPC	Coca Cola	Beverages
Clorox	HPC	Conagra Brands	Food
Coca-Cola Bottlers Japan Holdings	Beverages	Costco Wholesale	Retail
Coles Group	Retail	Coty CLA	HPC
Colgate-Palm.	HPC	Golden Agri-Resources	Food
Dairy Farm Intl.Hdg.	Food	Heineken	Beverages
Hershey	Food	L'Oreal	HPC
Imperial Brands	Tobacco	Meiji Holdings	Food
Ingredion	Food	Nestle 'R'	Food
Japan Tobacco	Tobacco	Nh Foods	Food
Koninklijke Ahold Delhaize	Retail	Nisshin Seifun	Food
Kroger	Retail	Nissin Foods Holdings	Food
Lawson	Retail	Pepsico	Beverages
Mccormick & Company Nv.	Food	Procter & Gamble	HPC
Monster Beverages	Beverages	Seven & I Hdg.	Retail
Philip Morris Intl.	Tobacco	Tesco	Retail
Pola Orbis Holdings	HPC	Toyo Suisan Kaisha	Food
Swedish Match	Tobacco	Walmart	Retail
Sysco	Retail	Wilmar Intl.	Food
The A2 Milk Company	Food	Yamazaki Baking	Food
Walgreens Boots Alliance	Retail		

Source: Barclays Research, MSCI, Refinitiv

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Materially Mentioned Stocks (Ticker, Date, Price)

Ahold Delhaize (AD.AS, 07-Oct-2019, EUR 22.70), Equal Weight/Neutral, B/CD/J
 Alimentation Couche-Tard Inc. (ATD-B.TO, 07-Oct-2019, CAD 40.38), Overweight/Neutral, CD/D/J/K/L/M/N/U
 Altria Group Inc. (MO, 07-Oct-2019, USD 42.17), Overweight/Neutral, A/CD/CE/D/J/K/L/M
 Anheuser-Busch InBev (ABI.BR, 07-Oct-2019, EUR 85.39), Underweight/Neutral, A/CD/CE/D/J/K/L/M/N
 Barry Callebaut (BARN.S, 07-Oct-2019, CHF 2078.00), Overweight/Neutral, J
 Brown-Forman (BFb, 07-Oct-2019, USD 62.47), Equal Weight/Neutral, CD/J/K/M/N
 Campbell Soup (CPB, 07-Oct-2019, USD 47.00), Underweight/Neutral, CD/CE/D/E/J/K/L/M
 Carrefour (CARR.PA, 07-Oct-2019, EUR 15.15), Equal Weight/Neutral, CD/D/FA/J/K/L/M/N
 Casino (CASP.PA, 07-Oct-2019, EUR 42.14), Underweight/Neutral, CD/J
 Church & Dwight Co., Inc. (CHD, 07-Oct-2019, USD 76.05), Underweight/Neutral, CD/CE/J/K/N
 Clorox Company (CLX, 07-Oct-2019, USD 151.16), Underweight/Neutral, CD/CE/J/K/M/N
 Colgate-Palmolive (CL, 07-Oct-2019, USD 71.62), Equal Weight/Neutral, A/CD/CE/D/J/K/L/M
 Conagra Brands (CAG, 07-Oct-2019, USD 28.63), Overweight/Neutral, A/CD/CE/D/J/K/L/M
 Costco Wholesale Corp. (COST, 07-Oct-2019, USD 293.41), Equal Weight/Neutral, CD/CE/D/J/K/L/M/N
 Coty Inc. (COTY, 07-Oct-2019, USD 10.34), Equal Weight/Neutral, CD/CE/J/K/M
 Heineken NV (HEIN.AS, 07-Oct-2019, EUR 97.42), Overweight/Neutral, CD/D/E/J/K/L/M/N
 Imperial Brands Plc (IMB.L, 07-Oct-2019, GBp 1830), Overweight/Neutral, A/D/E/J/K/L/M/N/Q
 Japan Tobacco Inc. (JAPAY, 07-Oct-2019, USD 10.95), Underweight/Neutral, CD/J/K/N
 Kroger Co. (KR, 07-Oct-2019, USD 24.84), Equal Weight/Neutral, CD/CE/J
 L'Oréal SA (OREP.PA, 07-Oct-2019, EUR 248.00), Equal Weight/Neutral, J/K/N
 McCormick & Co. (MKC, 07-Oct-2019, USD 168.22), Equal Weight/Neutral, CD/CE/J
 Nestle SA (NESN.S, 07-Oct-2019, CHF 107.80), Overweight/Neutral, CD/D/E/J/K/L/M/N
 PepsiCo Inc. (PEP, 07-Oct-2019, USD 138.34), Equal Weight/Neutral, A/CD/CE/D/J/K/L/M

IMPORTANT DISCLOSURES CONTINUED

Philip Morris International Inc. (PM, 07-Oct-2019, USD 77.17), Overweight/Neutral, A/CD/CE/D/E/J/K/L/M

Procter & Gamble (PG, 07-Oct-2019, USD 122.84), Overweight/Neutral, A/CD/CE/D/E/J/K/L/M

Reckitt Benckiser Group PLC (RB.L, 07-Oct-2019, GBp 6258), Overweight/Neutral, CD/J/K/M/N

Swedish Match (SWMA.ST, 07-Oct-2019, SEK 403.70), Overweight/Neutral, CD/FA/J

SYSCO Corp. (SY, 07-Oct-2019, USD 78.22), Equal Weight/Neutral, CD/CE/D/J/K/L/M/N

Tesco (TSCO.L, 07-Oct-2019, GBP 2.37), Overweight/Neutral, A/CD/D/E/J/K/L/M/N/Q

The Coca-Cola Company (KO, 07-Oct-2019, USD 53.87), Overweight/Neutral, A/CD/CE/D/J/K/L/M/N

The Hershey Company (HSY, 07-Oct-2019, USD 157.70), Equal Weight/Neutral, CD/CE/J

Walgreens Boots Alliance (WBA, 07-Oct-2019, USD 52.76), Equal Weight/Neutral, CD/CE/J/K/N

Walmart Inc. (WMT, 07-Oct-2019, USD 117.23), Overweight/Neutral, A/CD/CE/D/E/J/K/L/M/N/R

Non-covered Stocks (Ticker, Date, Price)

A2 MILK CO LTD (ATM.NZ, 07-Oct-2019, NZD 13.19, Refinitiv), J

AEON CO LTD (8267.T, 07-Oct-2019, JPY 2008, Refinitiv), A/CD/D/J/K/L/M

COCA-COLA BOTTLERS JAPAN HOL (2579.T, 07-Oct-2019, JPY 2440, Refinitiv), CD/J

COLES GROUP LTD (COL.AX, 07-Oct-2019, AUD 15.06, Refinitiv), J

DAIRY FARM INTL HLDGS LTD (DAIR.SI, 07-Oct-2019, USD 6.13, Refinitiv), J

GOLDEN AGRI-RESOURCES LTD (GAGR.SI, 07-Oct-2019, SGD 0.21, Refinitiv), D/J/K/L/M

INGREDION INC (INGR, 07-Oct-2019, USD 78.34, Refinitiv), CD/J

KOBAYASHI PHARMACEUTICAL CO (4967.T, 07-Oct-2019, JPY 8410, Refinitiv), J

KOSE CORP (4922.T, 07-Oct-2019, JPY 18110, Refinitiv), J

LAWSON INC (2651.T, 07-Oct-2019, JPY 5680, Refinitiv), J

MEIJI HOLDINGS CO LTD (2269.T, 07-Oct-2019, JPY 7680, Refinitiv), CD/J/K/N

MONSTER BEVERAGE CORP (MNST, 07-Oct-2019, USD 55.73, Refinitiv), CE/J

NH FOODS LTD (2282.T, 07-Oct-2019, JPY 4495, Refinitiv), CD/J

NISSHIN SEIFUN GROUP INC (2002.T, 07-Oct-2019, JPY 1967, Refinitiv), CD/J

NISSIN FOODS HOLDINGS CO LTD (2897.T, 07-Oct-2019, JPY 7960, Refinitiv), J

POLA ORBIS HOLDINGS INC (4927.T, 07-Oct-2019, JPY 2383, Refinitiv), J

SEVEN & I HOLDINGS CO LTD (3382.T, 07-Oct-2019, JPY 4119, Refinitiv), CD/J

SUNDRUG CO LTD (9989.T, 07-Oct-2019, JPY 3425, Refinitiv), J

TOYO SUISAN KAISHA LTD (2875.T, 07-Oct-2019, JPY 4275, Refinitiv), J

TREASURY WINE ESTATES LTD (TWE.AX, 07-Oct-2019, AUD 18.16, Refinitiv), J

WILMAR INTERNATIONAL LTD (WLIL.SI, 07-Oct-2019, SGD 3.63, Refinitiv), CD/D/J/K/L/M

WOOLWORTHS GROUP LTD (WOW.AX, 07-Oct-2019, AUD 36.81, Refinitiv), CD/J

YAMAZAKI BAKING CO LTD (2212.T, 07-Oct-2019, JPY 1943, Refinitiv), J

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In addition to the stock rating, we provide industry views which rate the outlook for the industry coverage universe as Positive, Neutral or Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

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European Consumer Staples

A.G. Barr PLC (BAG.L)	Altria Group Inc. (MO)	Anheuser-Busch InBev (ABI.BR)
Associated British Foods (ABF.L)	Bakkavor (BAKK.L)	Barry Callebaut (BARN.S)
Beiersdorf AG (BEIG.DE)	British American Tobacco Plc (BATS.L)	Britvic PLC (BVIC.L)
Carlsberg AS-B (CARLb.CO)	Chr. Hansen Holding A/S (CHRH.CO)	Coca-Cola Hellenic BC AG (CCH.L)
Danone (DANO.PA)	Davide Campari-Milano SpA (CPRI.MI)	Diageo PLC (DGE.L)
Essity (ESSITYb.ST)	Glanbia PLC (GL9.I)	Greencore Group PLC (GNC.L)
Heineken NV (HEIN.AS)	Henkel (HNKG_p.DE)	Imperial Brands Plc (IMB.L)
Japan Tobacco Inc. (JAPAY)	Kerry Group PLC (KYGa.L)	L'Oréal SA (OREP.PA)
Lindt & Spruengli (LISN.S)	Nestle SA (NESN.S)	Ontex Group (ONTEX.BR)
Pernod-Ricard SA (PERP.PA)	Philip Morris International Inc. (PM)	Reckitt Benckiser Group PLC (RB.L)
Rémy Cointreau (RCOP.PA)	Swedish Match (SWMA.ST)	Tate & Lyle PLC (TATE.L)
Unilever NV (UNA.AS)	Unilever PLC (ULVR.L)	

European Food Retail

Ahold Delhaize (AD.AS)	Carrefour (CARR.PA)	Casino (CASP.PA)
Colruyt (COLR.BR)	DIA (DIDA.MC)	ICA GRUPPEN AB (ICAA.ST)
Jeronimo Martins (JMT.LS)	Metro AG (B4B.DE)	Morrison (MRW.L)
Ocado (OCDO.L)	Rallye (GENC.PA)	Sainsbury (J) plc (SBRY.L)
Sonae (YSO.LS)	Tesco (TSCOL.L)	

North America Food & Staples Retailing

Alimentation Couche-Tard Inc. (ATD-B.TO)	Big Lots, Inc. (BIG)	BJ's Wholesale Club Holdings, Inc. (BJ)
Casey's General Stores Inc (CASY)	Costco Wholesale Corp. (COST)	Dollar General Corporation (DG)
Dollar Tree Inc (DLTR)	Dollarama Inc. (DOL.TO)	Empire Co., Ltd. (EMP-A.TO)
Five Below, Inc. (FIVE)	Grocery Outlet Holding Corp (GO)	Kroger Co. (KR)
Loblaw Cos., Ltd. (L.TO)	Metro Inc. (MRU.TO)	SpartanNash Co (SPTN)
Sprouts Farmers Market Inc (SFM)	Target Corp. (TGT)	United Natural Foods, Inc. (UNFI)
Walmart Inc. (WMT)		

U.S. CHPC & Beverages

Avon Products (AVP)	Brown-Forman (BFb)	Church & Dwight Co., Inc. (CHD)
Clorox Company (CLX)	Coca-Cola European Partners PLC (CCE.AS)	Coca-Cola European Partners PLC (CCEP)
Colgate-Palmolive (CL)	Constellation Brands (STZ)	Coty Inc. (COTY)
Edgewell Personal Care Company (EPC)	Energizer Holdings, Inc (ENR)	International Flavors & Fragrances (IFF)
Keurig Dr Pepper (KDP)	Kimberly-Clark Corp. (KMB)	Molson Coors Brewing Company (TAP)
Newell Brands Inc. (NWL)	PepsiCo Inc. (PEP)	Procter & Gamble (PG)
Sundial Growers, Inc. (SNDL)	The Coca-Cola Company (KO)	The Estée Lauder Companies (EL)

U.S. Food

B&G Foods (BGS)	Campbell Soup (CPB)	Conagra Brands (CAG)
General Mills (GIS)	Hain Celestial (HAIN)	Kellogg Co. (K)
Lamb Weston Holdings, Inc. (LW)	McCormick & Co. (MKC)	Mondelez International (MDLZ)
Nomad Foods Ltd. (NOMD)	Post Holdings, Inc. (POST)	The Hershey Company (HSY)
The J.M. Smucker Company (SJM)	The Kraft Heinz Company (KHC)	TreeHouse Foods (THS)

U.S. Health Care Services

IMPORTANT DISCLOSURES CONTINUED

Align Technology (ALGN)	Amedisys, Inc. (AMED)	American Renal Associates Holdings Inc. (ARA)
AmerisourceBergen Corp. (ABC)	Anthem (ANTM)	Brookdale Senior Living Inc. (BKD)
Capital Senior Living Corporation (CSU)	Cardinal Health (CAH)	CareTrust REIT, Inc. (CTRE)
Centene (CNC)	Cerner (CERN)	Cigna (CI)
Community Health Systems Inc. (CYH)	CVS Health (CVS)	DaVita Inc. (DVA)
Dentsply Sirona (XRAY)	Diplomat Pharmacy Inc. (DPLO)	Encompass Health Corp. (EHC)
HCA Healthcare, Inc. (HCA)	HCP, Inc. (HCP)	Henry Schein (HSIC)
Humana (HUM)	LHC Group, Inc. (LHCG)	McKesson (MCK)
Medical Properties Trust Inc. (MPW)	Molina Healthcare (MOH)	Owens & Minor (OMI)
Patterson Companies (PCO)	Premier Inc. (PINC)	Sabra Health Care REIT, Inc. (SBRA)
Select Medical Holdings Corporation (SEM)	Tenet Healthcare Inc. (THC)	UnitedHealth Group (UNH)
Universal Health Services Inc. (UHS)	Ventas, Inc. (VTR)	Walgreens Boots Alliance (WBA)
WellCare Health Plans (WCG)	Welltower, Inc. (WELL)	

U.S. Restaurants

BJ's Restaurants Inc (BJRI)	Bloomin' Brands, Inc. (BLMN)	Brinker International (EAT)
Chipotle Mexican Grill, Inc. (CMG)	Darden Restaurants (DRI)	Dine Brands Global (DIN)
Domino's Pizza (DPZ)	Dunkin' Brands Group (DNKN)	Jack in the Box Inc. (JACK)
McDonald's Corp. (MCD)	Performance Food Group Co. (PFGC)	Restaurant Brands International (QSR)
Shake Shack Inc. (SHAK)	Starbucks Corp. (SBUX)	SYSCO Corp. (SYY)
Texas Roadhouse, Inc. (TXRH)	The Cheesecake Factory (CAKE)	The Wendy's Company (WEN)
US Foods Holdings Corp (USFD)	Wingstop Inc. (WING)	Yum! Brands Inc. (YUM)

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