



Updating our best quant ideas

Quantitative macro and micro forecasts for this month

In this report we present our latest quantitative forecasts for the coming month. Our models are designed to generate both bottom-up stock selection ideas as well as top-down asset, country, and style allocation calls.

Screening for takeover targets

Mergers are back in fashion, so we take this opportunity to update our quantitatively-driven M&A screen. Our model uses unique early warning flags like abnormal intraday trading patterns or unusual options activity to detect potential takeovers.

Renewed macro fears are overdone

Our top-down Variance Risk Premium (VRP) signal tells us that despite the uncertainty in Italian politics and the unknown consequences of the U.S. sequester, there does not appear to be a major market turning point on the horizon. This is reinforced by our opportunity set analysis, which continues to point to a better stock-selection environment.

Quant likes Financials and Consumer Discretionary

Our flagship QCD model for U.S. equities favors Financials and Consumer Discretionary stocks this month. Meanwhile, our CCRM country rotation model continues where it left off last month, with a tilt towards emerging Asian markets, along with your author's old homeland of New Zealand.

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Quantifying markets

M&A back in fashion

Updating our quant takeover prediction model

One only has to glance at the financial press right now to see that M&A activity is suddenly back in vogue. So now is a good time to update our takeover prediction screen. Full details on how this model works, along with past performance, can be found in our paper "Signal Processing: Targeting Takeovers", 22 August 2011.

In a nutshell, the model uses two types of factors:

- **Fundamental factors** – These include things like the size of the company (smaller companies are more likely to be taken over), the past financial performance of the firm (underperforming companies often become targets), and the margins of the company (good margins offer lots of cash to allow an acquirer to gear the firm up).
- **Short-term trading signals** – The problem with relying purely on fundamentals to predict takeovers is a firm can look like a target for a long time before someone pulls the trigger and makes an offer. Therefore, we augment the fundamentals with short-term signals designed to detect when something abnormal is happening to the intraday trading pattern of the stock, or when something unusual is going on with the stock's options. These can be the early warning indicators that a stock is in play.

Here are 20 stocks from the screen with a high takeover likelihood, based on our model. For a complete listing of all stocks, please contact us.

Figure 1: High takeover probability names, Russell 3000 universe

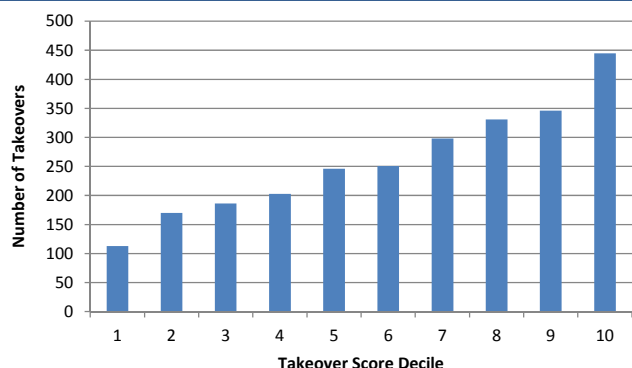
Ticker	Name	Sector	Takeover Score (higher = more likely to be takeover target)
USG	USG CORP	Industrials	0.999
DISH	DISH NETWORK CORP	Consumer Discretionary	0.997
PRGX	PRGX GLOBAL INC	Information Technology	0.948
LCI	LANNETT CO INC	Health Care	0.908
GST	GASTAR EXPLORATION LTD	Energy	0.890
MBRG	MIDDLEBURG FINANCIAL CORP	Financials	0.879
JOUT	JOHNSON OUTDOORS INC -CL A	Consumer Discretionary	0.875
IQNT	NEUTRAL TANDEM INC	Telecommunication Services	0.873
BLMT	BSB BANCORP INC	Financials	0.871
PGI	PREMIERE GLOBAL SERVICES INC	Telecommunication Services	0.864
RSYS	RADISYS CORP	Information Technology	0.852
PRKR	PARKERVISION INC	Information Technology	0.849
FRP	FAIRPOINT COMMUNICATIONS INC	Telecommunication Services	0.846
RAD	RITE AID CORP	Consumer Staples	0.841
DFR	CIFC CORP	Financials	0.830
ORBC	ORBCOMM INC	Telecommunication Services	0.829
PNX	PHOENIX COMPANIES INC	Financials	0.821
VTUS	VENTRUS BIOSCIENCES INC	Health Care	0.820
GNK	GENCO SHIPPING & TRADING	Industrials	0.818

Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

How has our M&A screen worked in the past? Figure 2 shows the long-term, backtested performance of the model. Since 1998, the top decile of the screen (i.e. top 10%) picked up around 450 actual takeover announcements, compared to only around 100 in the bottom decile. We published our model in August 2011, so we have also been tracking live, true out-of-sample performance since then; Figure 3 shows the results. The model has continued to work well out-of-sample, with the top decile catching around twice the number of takeovers compared to other deciles.

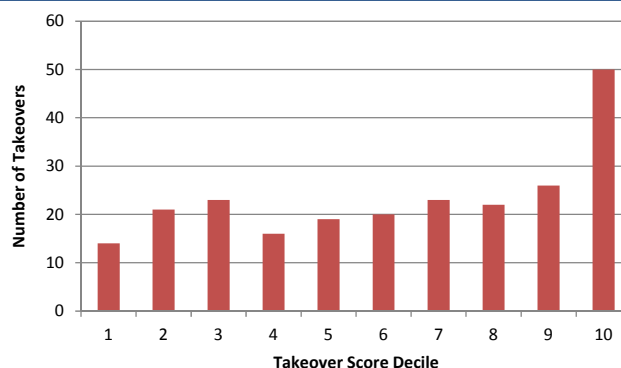


Figure 2: Long-term M&A screen performance (1998-present)



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 3: Out-of-sample M&A screen performance (August 2011-present)



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Macro update

Variance Risk Premium

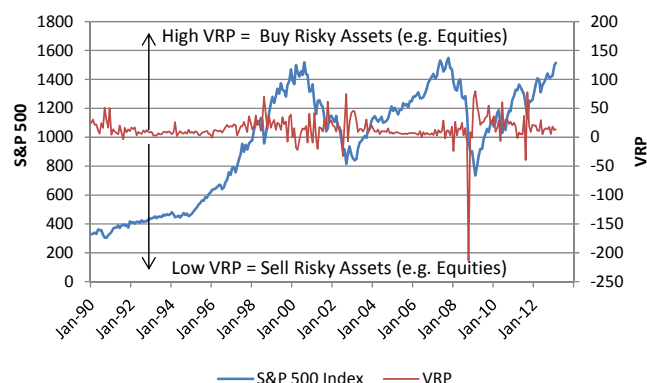
Our Variance Risk Premium (VRP) indicator is a contrarian indicator that measures market overreaction and underreaction to realized risk. In simple terms, VRP is the difference between options-implied risk (i.e. the VIX index) and realized risk (i.e. the actual risk in the market measured historically over the last month). If VRP is high, we see this as a buying opportunity for risky assets, like equities and high yield bonds. Why? The intuition is as follows. When VRP is high, VIX has typically shot up dramatically (i.e. the market is in panic mode). At the same time, realized risk has probably also risen, but not to the same extent. In other words, the market has overreacted relative to what the actual, realized data is telling us. Our research shows that such episodes are good buying opportunities for risky assets on about a three month horizon.¹ On the other hand, when VRP is low, it tends to be a complacency indicator: investors are failing to price in rising realized risk in the market, and as a result we should be selling risky assets like equities.

Similar to last month, the VRP reading today is quite close to neutral (see last point on the red line in Figure 5). These tells us that despite renewed concerns about the political situation in Italy and sequester shenanigans in the U.S., there is still no sign of a major turning point for equities, at least as far as this indicator is concerned. Note also that last month's neutral call was largely borne out, with the market up marginally over February.

¹ For more details on the VRP, including our backtesting work, see: Luo et al., 2011, "Signal Processing: Quant Tactical Asset Allocation (QTAA)", *Deutsche Bank Quantitative Strategy*, 19 September 2011.

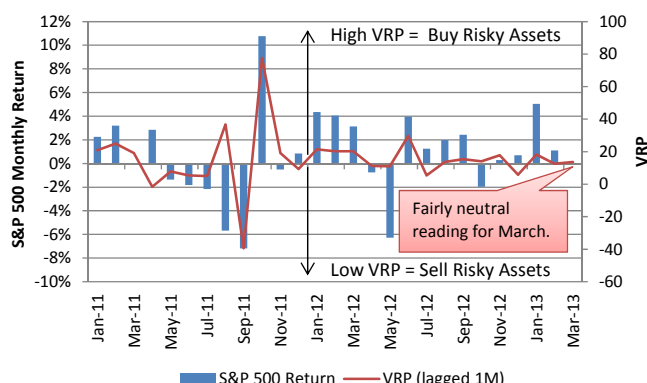


Figure 4: Variance Risk Premium (VRP)



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 5: Recent VRP (lagged) and market returns

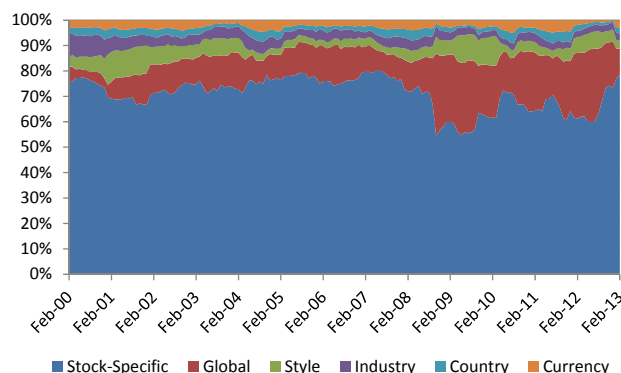


Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

The opportunity set for investors

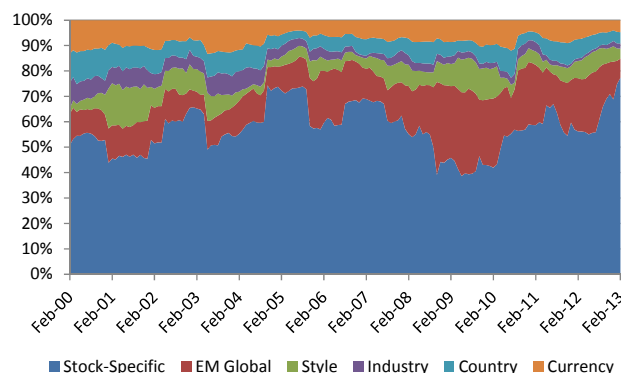
Another metric we keep a close eye on is the so-called “opportunity set” for investors. Think of this as the total alpha on the table. Our main interest is to understand what is driving that opportunity, because this can allow us to position our strategies to pick in the orchard with the juiciest fruit. In Figure 6 we show the opportunity set for global equity investors, and in Figure 7 we show the same thing for emerging market equity investors.

Figure 6: Global opportunity set



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 7: Emerging markets opportunity set



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Both charts actually tell a similar story. The key result is the size of the blue portion relative to the other colors. The blue represents the opportunity explained by stock selection, whereas we can think of the other colors as representing the opportunity from top-down calls like picking the right countries, industries, and styles. When the financial crisis exploded in 2008, we moved into a much more macro-dominated world. As a result, the portion of overall opportunity that could be explained by individual company characteristics (e.g. valuation, growth profile, earnings quality, etc.) shrunk sharply; no one cared if a stock looked good on fundamentals if it was exposed to Europe for example. Needless to say, such an environment was challenging for quants and non-quants alike, since both camps tend to use stock specific information to differentiate between stocks.

The good news for bottom-up stock pickers is the trend we noted last month has continued this month, with the blue area expanding further in both the global and



emerging market universes. This reinforces what we saw with VRP; despite increased fears about macro events, the empirical evidence is telling us the world is less concerned about the big picture than the headlines might have us believe.²

² For technical details on our definition of the opportunity set, see: Alvarez et al., 2012, "Portfolios Under Construction: Correlation and Opportunity", *Deutsche Bank Quantitative Strategy*, 24 January 2012.



Factor performance

U.S. factor performance

Figure 8, on page 7 shows the recent and long-term performance for around 80 quantitative factors in the U.S. market (defined as the Russell 3000 universe). For the second month in a row, factor performance was strong across the board. Dividend Yield had a dominant month as investors' quest for higher yields drove good dividend payers higher. Other value factors also did well; Earnings Yield, Cashflow Yield, and EV/EBITDA all had significantly positive performance.

Longer-term momentum is also working well, with 12M-1M Price Momentum having a big positive month. On the other hand, short-term reversal – a factor that was dominant through the choppy, risk-on/risk-off markets of a year ago – had a major drawdown. Right now the trend is definitely your friend. Given the steadier markets, sell-side analysts have been doing a good job of forecasting earnings; factors like 3M EPS and CPS Revisions did well.

Another interesting point to note is that the market rally is *not* a “junk” rally, in the sense that it is actually being driven lower beta and lower volatility stocks. Both these factors had positive performance last month, which means lower risk names outperformed. More evidence on this front is the fact that quality factors did quite well almost across the board.

Global factor performance

Figure 9, on page 8, shows the recent and long-term performance for quantitative factors in a global universe (defined as the S&P BMI World Index). A key difference between the U.S. and the rest of the world this month was a marked difference in the performance of value factors (with the exception of Dividend Yield, which did well globally too). Apart from value though, other styles around the world mirrored what we saw in the U.S., with generally strong performance.

For more details see our website

For the most recent daily factor performance, as well as factor performance delineated by different universes (e.g. large cap, small cap) and regions, please see our Global Quantitative Strategy website at <https://eqindex.db.com/gqs/>. Note that you need a username and password to log on to this website. If you don't have login details, please contact us at DBEQS.Americas@db.com and we'd be happy to set you up.



Figure 8: US factor performance, measured as rank IC (Russell 3000 universe)

Factor Name	Direction ¹	Current # of Stocks	Average IC (%)			Since Inception							# of Months	Avg # of Stocks	Hit Rate (%)	Serial Corr (%) ³
			Last M	12M Avg	3Y Avg	Avg	Std Dev	Avg / Std Dev	Max	Min	p-value ²					
1. Value																
1 Dividend yield, trailing 12M	Ascending	2,928	7.65	4.18	2.63	3.00	14.44	0.21	42.59	(33.26)	0.00	302	2,872	54.97	99.23	
2 Expected dividend yield	Ascending	2,928	8.34	4.35	2.95	3.25	14.98	0.22	44.46	(33.89)	0.00	302	2,872	54.30	99.32	
3 Price-to-operating EPS, trailing 12M Basic	Descending	2,336	0.32	0.26	0.80	2.79	10.47	0.27	30.82	(32.28)	0.00	226	2,355	59.29	95.20	
4 Operating earnings yield, trailing 12M Basic	Ascending	2,908	6.51	3.08	3.97	4.91	13.12	0.37	47.24	(33.30)	0.00	226	2,871	61.05	96.42	
5 Earnings yield, forecast FY1 mean	Ascending	2,767	6.11	2.34	3.26	4.43	12.42	0.36	48.88	(34.61)	0.00	302	2,534	62.25	94.98	
6 Earnings yield, forecast FY2 mean	Ascending	2,752	3.27	1.74	2.66	3.89	12.01	0.32	47.02	(34.31)	0.00	302	2,432	63.25	94.33	
7 Earnings yield x IBES 5Y growth	Ascending	1,731	1.59	0.38	1.23	1.78	10.48	0.17	41.11	(26.63)	0.01	226	1,929	58.85	93.45	
8 Sector-rel Operating earnings yield, trailing 12M Basic	Ascending	2,908	4.45	2.38	3.51	4.36	8.41	0.52	28.96	(14.93)	0.00	226	2,889	69.03	95.98	
9 Hist-rel Operating earnings yield, trailing 12M Basic	Ascending	2,131	(1.91)	(1.69)	1.18	1.70	7.00	0.24	20.73	(38.74)	0.01	132	2,011	62.12	96.85	
10 Operating cash flow yield (income stmt def)	Ascending	2,928	5.67	2.18	3.02	4.12	10.94	0.38	47.14	(32.67)	0.00	302	2,872	64.24	96.02	
11 Cash flow yield, FY1 mean	Ascending	1,605	2.98	(0.96)	0.42	2.74	17.71	0.15	66.05	(54.29)	0.01	272	743	58.09	95.75	
12 Free cash flow yield	Ascending	2,888	11.21	4.57	3.28	4.91	7.96	0.62	31.93	(22.64)	0.00	265	2,503	75.09	94.64	
13 Price-to-sales, trailing 12M	Descending	2,875	0.03	1.25	0.72	1.79	10.99	0.16	30.02	(41.46)	0.00	302	2,736	56.62	99.14	
14 Price-to-book	Descending	2,839	(0.37)	1.81	(0.49)	0.88	10.71	0.08	26.28	(35.75)	0.16	302	2,761	49.67	97.70	
15 EBITDA/EV	Ascending	2,888	4.57	1.06	2.58	4.19	9.76	0.43	39.32	(27.15)	0.00	302	2,817	67.55	95.54	
16 Price-to-book adj for ROE, sector adj	Descending	2,685	(3.93)	0.47	(0.86)	0.47	8.77	0.05	22.50	(33.21)	0.35	302	2,428	49.34	95.58	
2. Growth																
17 Hist 5Y operating EPS growth	Descending	2,857	0.72	1.97	2.54	1.07	8.78	0.12	30.58	(22.70)	0.08	214	2,729	52.34	97.23	
18 Hist 5Y operating EPS acceleration	Ascending	2,857	3.81	1.95	0.38	0.86	6.72	0.13	25.31	(16.13)	0.06	214	2,729	54.21	94.71	
19 IBES 5Y EPS growth	Ascending	2,407	(1.17)	(0.51)	1.57	0.89	8.15	0.11	21.65	(27.88)	0.06	302	2,255	53.97	98.29	
20 IBES 5Y EPS growth/stability	Ascending	2,407	0.32	(0.17)	1.65	1.32	7.75	0.17	20.64	(19.20)	0.00	302	2,255	56.29	98.62	
21 IBES LTG EPS mean	Descending	1,987	0.42	1.16	(0.73)	1.75	15.90	0.11	37.64	(52.38)	0.06	302	2,154	50.00	97.80	
22 IBES FY2 mean EPS growth	Ascending	2,114	7.84	2.71	1.46	0.97	8.59	0.11	24.12	(21.95)	0.20	129	1,461	50.39	87.80	
23 IBES FY1 mean EPS growth	Ascending	2,650	5.20	3.10	1.54	1.05	7.55	0.14	20.76	(24.42)	0.02	302	2,513	60.93	88.88	
24 Year-over-year quarterly EPS growth	Ascending	2,918	3.16	4.17	3.08	2.57	7.09	0.36	23.85	(21.12)	0.00	226	2,875	66.81	81.63	
25 IBES FY1 mean QPFS growth	Descending	1,119	(5.82)	(2.61)	(1.30)	0.46	11.24	0.04	38.08	(42.07)	0.54	229	506	50.66	92.80	
26 IBES SUE, amortized	Ascending	2,543	3.47	0.09	1.74	0.77	6.54	0.12	20.62	(16.30)	0.07	241	1,056	53.53	73.79	
3. Price Momentum and Reversal																
27 Total return, 1D	Descending	2,928	1.24	0.98	2.76	5.05	7.18	0.70	15.52	(33.75)	0.00	302	2,872	78.48	1.62	
28 Total return, 21D (3M)	Descending	2,928	(11.51)	(0.03)	0.85	1.87	10.98	0.17	29.03	(43.69)	0.00	302	2,871	58.28	0.38	
29 Maximum daily return in last 1M (lottery factor)	Descending	2,900	12.19	5.75	3.93	5.22	15.00	0.35	39.13	(56.07)	0.00	302	2,741	64.57	54.40	
30 2D volatility of volume/price	Descending	2,928	5.96	2.29	2.22	0.25	6.98	0.04	24.16	(16.78)	0.50	302	2,861	51.32	56.51	
31 Total return, 252D (12M)	Ascending	2,888	10.27	5.58	2.91	3.28	14.16	0.23	39.62	(57.0)	0.00	302	2,730	64.24	89.95	
32 12M 1M total return	Ascending	2,888	8.43	5.87	3.47	4.13	13.26	0.31	37.65	(49.03)	0.00	302	2,730	65.23	88.42	
33 Price-to-52 week high	Ascending	2,936	14.81	5.03	2.72	3.19	17.86	0.18	49.63	(62.9)	0.00	302	1,995	61.92	83.41	
34 Total return, 1260D (60M)	Ascending	2,517	6.20	(0.50)	2.24	1.13	11.02	0.10	25.63	(35.41)	0.08	230	2,230	56.55	97.47	
4. Sentiment																
35 IBES LTG Mean EPS Revision, 3M	Ascending	1,988	2.86	1.33	1.28	0.88	3.78	0.23	11.16	(12.05)	0.00	302	2,126	61.92	59.76	
36 IBES FY1 Mean EPS Revision, 3M	Ascending	2,727	2.44	1.62	1.79	2.96	8.50	0.35	29.96	(33.0)	0.00	302	2,472	66.89	75.48	
37 IBES FY1 EPS up/down ratio, 3M	Ascending	2,510	2.87	1.10	1.78	3.11	7.90	0.39	27.54	(24.41)	0.00	302	2,333	67.88	79.65	
38 Expectation gap, short-term-long-term	Descending	2,167	3.66	2.22	2.04	1.24	5.19	0.24	9.60	(19.91)	0.00	302	2,123	58.28	91.17	
39 IBES FY1 Mean QPFS Revision, 3M	Ascending	1,510	6.29	1.05	1.61	2.01	16.12	0.12	69.38	(75.04)	0.04	271	676	61.99	64.44	
40 IBES FY1 Mean SAL Revision, 3M	Ascending	2,679	4.94	1.95	2.11	1.08	7.94	0.14	27.43	(24.32)	0.05	201	2,156	60.20	71.55	
41 IBES FY1 Mean FFO Revision, 3M	Ascending	137	8.06	0.63	2.90	2.94	21.16	0.14	71.43	(80.0)	0.02	274	83	57.30	69.69	
42 IBES FY1 Mean DPS Revision, 3M	Ascending	1,249	(1.46)	0.02	0.76	0.67	5.22	0.13	14.91	(17.55)	0.15	126	987	57.94	62.34	
43 IBES FY1 Mean ROE Revision, 3M	Ascending	2,110	1.59	0.03	0.76	0.65	6.74	0.10	23.70	(22.19)	0.28	126	1,713	57.94	66.30	
44 Recommendation, mean	Descending	2,773	1.94	1.14	1.81	0.79	7.98	0.10	21.85	(19.41)	0.11	231	2,674	56.28	94.35	
45 Mean recommendation revision, 3M	Descending	2,765	4.61	0.21	0.49	1.26	4.12	0.31	19.86	(11.55)	0.00	228	2,660	62.72	59.86	
46 Target price implied return	Ascending	2,711	(11.78)	(1.37)	0.33	0.03	17.00	0.00	60.74	(39.93)	0.98	167	2,452	53.29	80.05	
47 Mean target price revision, 3M	Ascending	2,700	8.46	1.63	1.30	2.41	12.82	0.19	30.14	(41.99)	0.02	164	2,438	64.02	74.91	
5. Quality																
48 ROE, trailing 12M	Ascending	2,905	3.88	1.56	3.27	3.91	10.16	0.38	33.42	(29.52)	0.00	226	2,862	64.16	96.79	
49 Return on invested capital (ROIC)	Ascending	2,899	4.80	1.36	3.70	4.24	10.32	0.41	33.02	(31.24)	0.00	226	2,864	68.98	98.27	
50 Sales to total assets (asset turnover)	Ascending	2,913	(0.18)	(0.96)	1.69	1.57	8.70	0.18	22.78	(22.02)	0.00	302	2,812	55.96	99.45	
51 Operating profit margin	Ascending	2,867	(1.44)	(1.10)	0.74	1.21	5.43	0.22	16.98	(14.17)	0.00	302	2,715	59.93	98.42	
52 Current ratio	Descending	2,262	6.72	2.01	1.00	1.86	10.26	0.18	31.95	(38.66)	0.00	302	2,238	54.30	97.94	
53 Long-term debt/equity	Ascending	2,819	4.76	4.16	2.11	0.82	9.62	0.08	35.65	(28.14)	0.14	302	2,746	48.68	98.55	
54 Altman's z-score	Ascending	2,221	1.35	0.25	1.49	0.29	9.23	0.03	31.74	(30.44)	0.59	302	2,157	49.34	98.36	
55 Merton's distance to default	Ascending	2,222	11.14	2.13	2.93	3.38	11.88	0.29	33.03	(41.45)	0.00	302	2,335	65.89	95.08	
56 Ohlson default model	Descending	2,222	2.39	0.60	1.93	2.39	6.35	0.38	16.95	(18.63)	0.00	265	2,122	68.68	98.29	
57 Accruals (Sloan 1996 def)	Descending	2,167	1.93	(0.28)	(0.25)	0.55	4.20	0.13	12.07	(15.48)	0.02	302	2,137	54.97	88.51	
58 Firm-specific discretionary accruals	Descending	1,136	1.97	0.48	0.00	0.53	3.14	0.17	7.82	(10.87)	0.01	242	2,127	55.79	81.48	
59 Hist 5Y operating EPS stability, coef of determination	Ascending	2,857	(0.80)	0.11	(0.20)	0.80	5.06	0.16	20.01	(12.27)	0.02	214	2,729	52.34	96.87	
60 IBES 5Y EPS stability	Descending	2,407	3.61	1.09	0.86	1.17	8.66	0.14	25.00	(34.33)	0.02	302	2,255	53.97	98.95	
61 IBES FY1 EPS dispersion	Descending	2,767	(1.82)	1.53	2.93	1.56	9.14	0.17	31.67	(25.17)	0.00	302	2,534	59.93	84.23	
62 Payout on trailing operating EPS	Ascending	2,249	2.30	2.01	0.60	0.85	13.50	0.06	38.55	(30.9)	0.27	302	2,211	49.67	99.23	
63 YoY change in # of shares outstanding	Descending	2,872	4.05	3.15	2.75	2.62	8.94	0.29	19.53	(46.21)	0.00	302	2,767	60.26	94.34	
64 YoY change in debt outstanding	Descending	2,229	0.07	0.64	(0.44)	0.28	4.07	0.07	13.07	(10.4)	0.23	302	2,220	55.96	90.00	
65 Net external financing/net operating assets	Ascending	2,918	5.13	3.31	2.73	2.50	8.49	0.29	44.61	(21.7)	0.00	302	2,894	61.26	94.76	
66 Piotroski's F-score	Ascending	2,928	6.03	2.65	2.99	2.95	8.14	0.36	29.20	(27.83)	0.00	302	2,894	67.55	88.16	
67 Mhannan's G-score	Ascending	537	(0.64)	(0.84)	1.24	2.68	10.67	0.25	35.27	(32.14)	0.00	214	381	57.01	95.45	
6. Technicals																
68 # of days to cover short	Descending	308	5.82	2.27	2.39	2.26	7.30	0.31	33.80	(25.16)	0.00	302	1,996	58.94	91.32	
69 CAPM beta, 5Y monthly	Descending	2,906	3.64	(0.84)	(0.36)	1.06	13.86	0.08	40.19	(42.7)	0.23	243	2,907	51.44	97.68	
70 CAPM idiosyncratic vol, 1Y daily	Descending	2,903	14.58	6.68												



Figure 9: Global factor performance, measured as rank IC (S&P BMI World universe)

Factor Name	Direction ¹	Current # of Stocks	Average IC (%)			Since Inception							# of Months	Avg # of Stocks	Hit Rate (%)	Serial Corr (%) ³
			Last M	12MAvg	3Y Avg	Avg /			p-value ²							
						Avg	Std Dev	Std Dev								
1. Value																
1 Dividend yield, trailing 12M	Ascending	9,784	3.17	4.24	4.14	4.34	10.42	0.42	36.74	(23.63)	0.00	278	8,072	63.67	97.97	
2 Dividend yield, FY1	Ascending	7,428	3.51	4.09	3.73	4.48	10.87	0.41	32.17	(22.90)	0.00	221	5,178	64.71	98.18	
3 Dividend yield, FY2	Ascending	7,379	2.35	4.01	3.51	4.40	10.91	0.40	33.19	(24.39)	0.00	211	5,134	64.45	98.16	
4 Price/Earnings	Descending	8,285	(8.37)	(0.96)	0.80	4.17	13.20	0.32	39.66	(50.73)	0.00	271	6,261	62.36	96.33	
5 Price-to-FY0 EPS	Descending	7,505	(10.57)	(1.52)	(0.47)	3.00	10.33	0.29	28.98	(37.08)	0.00	278	5,989	62.59	96.40	
6 Earnings yield, FY0	Ascending	8,558	(4.73)	1.61	1.81	4.09	9.24	0.44	31.67	(18.68)	0.00	278	6,967	65.11	96.31	
7 Earnings yield, forecast FY1 mean	Ascending	7,976	(0.22)	2.17	2.37	4.82	10.94	0.44	35.35	(22.20)	0.00	278	6,420	64.39	95.69	
8 Earnings yield, forecast FY2 mean	Ascending	7,936	(3.19)	0.64	1.35	4.45	11.93	0.37	37.31	(31.50)	0.00	278	6,244	63.31	95.71	
9 Cash flow yield, FY0	Ascending	6,569	(0.29)	(0.39)	0.44	4.10	6.47	0.63	26.42	(11.80)	0.00	154	4,886	74.68	97.11	
10 Cash flow yield, FY1 mean	Ascending	5,616	(4.48)	(2.15)	(0.98)	2.07	9.81	0.21	31.42	(32.01)	0.00	210	4,437	58.10	96.04	
11 Price/Sales	Descending	9,305	(3.28)	(1.95)	(0.31)	1.48	9.65	0.15	26.48	(31.59)	0.01	278	7,452	55.76	99.23	
12 Price/Book	Descending	9,476	(5.57)	(1.91)	(1.29)	1.26	10.55	0.12	31.56	(37.54)	0.05	278	7,497	57.19	98.33	
13 Est Book-to-price, median	Ascending	6,935	(7.57)	(2.15)	(2.15)	1.32	9.96	0.13	30.37	(26.29)	0.09	162	5,337	53.09	98.05	
14 EBITDA to EV	Ascending	7,312	4.76	4.78	4.74	3.88	10.79	0.36	36.69	(26.20)	0.00	278	4,614	62.59	95.60	
15 Sales/EV	Ascending	9,341	2.93	(0.37)	0.97	1.93	7.95	0.24	24.81	(20.06)	0.00	278	7,417	60.43	98.98	
2. Growth																
16 IBES 5Y EPS growth	Ascending	7,884	1.75	1.40	1.87	1.12	6.19	0.18	19.09	(21.86)	0.00	278	6,168	58.99	98.07	
17 EPS Growth	Ascending	9,067	4.94	2.74	1.62	2.09	6.90	0.30	29.72	(28.97)	0.00	262	6,841	64.12	88.54	
18 IBES LTG EPS mean	Descending	5,149	(2.26)	0.43	0.34	1.41	12.21	0.12	28.22	(40.36)	0.05	278	4,146	52.88	96.81	
19 IBES FY1 mean EPS growth	Ascending	7,562	8.69	1.26	0.32	0.38	6.06	0.06	14.44	(20.10)	0.29	278	6,334	54.68	88.60	
20 IBES FY1 mean EPS growth	Descending	5,033	(1.44)	0.77	0.73	1.72	4.25	0.40	7.47	(11.39)	0.00	154	3,864	64.94	91.85	
21 IBES FY2 mean EPS growth	Ascending	7,370	1.47	1.90	0.35	2.58	11.07	0.23	38.85	(31.49)	0.00	220	5,016	60.00	88.09	
22 Asset growth	Descending	9,229	1.54	1.43	0.90	0.55	8.57	0.06	21.57	(27.36)	0.29	278	7,240	51.44	93.71	
3. Price Momentum and Reversal																
23 Total return, 1D	Descending	9,806	(3.29)	2.81	3.17	3.62	7.46	0.49	21.94	(41.58)	0.00	278	8,087	71.22	2.04	
24 Weekly Total Return	Descending	9,806	(9.38)	0.31	3.74	3.04	8.76	0.35	30.60	(33.64)	0.00	278	8,086	65.11	1.42	
25 Total return, 21D (1M)	Ascending	9,804	12.40	0.94	0.33	0.07	11.49	0.01	27.69	(44.07)	0.92	278	8,080	52.88	4.11	
26 Total return, 252D (12M)	Ascending	9,617	16.91	9.54	5.38	4.36	14.56	0.30	41.64	(46.50)	0.00	278	7,888	66.55	90.63	
27 12M1M total return	Ascending	9,617	14.46	9.83	5.90	4.99	14.04	0.36	40.96	(42.52)	0.00	278	7,888	68.71	88.68	
28 Total return, 1260D (60M)	Ascending	8,597	11.40	2.69	2.25	1.45	14.18	0.10	40.32	(44.84)	0.09	278	6,374	58.27	97.81	
4. Sentiment																
29 IBES LTG Mean EPS Revision, 1M	Ascending	5,130	0.33	0.66	0.67	0.65	2.59	0.25	7.26	(8.59)	0.00	278	4,108	62.59	0.53	
30 IBES LTG Mean EPS Revision, 3M	Ascending	5,092	2.80	1.55	0.89	0.84	3.36	0.25	11.05	(10.26)	0.00	278	4,052	61.15	60.10	
31 IBES FY1 EPS up/down ratio, 1M	Ascending	4,343	4.33	3.31	3.23	3.66	5.43	0.67	17.76	(13.76)	0.00	278	4,318	76.62	34.80	
32 IBES FY1 EPS up/down ratio, 3M	Ascending	7,330	7.54	4.91	3.68	3.63	5.79	0.63	17.92	(12.36)	0.00	278	5,796	75.18	78.53	
33 IBES FY1 Mean EPS Revision, 1M	Ascending	7,822	4.86	3.35	2.49	2.87	5.07	0.57	16.50	(12.79)	0.00	278	6,273	72.30	24.19	
34 IBES FY1 Mean EPS Revision, 3M	Ascending	7,749	7.30	5.14	3.64	3.36	6.63	0.51	19.37	(20.12)	0.00	278	6,181	73.38	74.20	
35 IBES FY1 Mean EPS Revision, 3M	Ascending	5,353	7.09	3.56	2.53	2.50	5.58	0.45	15.81	(23.83)	0.00	200	4,261	77.50	63.99	
36 IBES FY1 Mean EPS Revision, 1M	Ascending	5,785	5.66	3.74	2.92	1.75	4.40	0.40	12.65	(16.63)	0.00	219	4,294	71.69	10.95	
37 IBES FY1 Mean EPS Revision, 3M	Ascending	5,764	5.24	4.57	3.49	2.14	5.86	0.37	19.08	(24.51)	0.00	217	4,234	72.35	65.61	
38 IBES FY1 Mean FFO Revision, 1M	Ascending	5,017	7.66	3.64	3.31	2.18	4.00	0.54	11.09	(8.83)	0.00	146	3,955	77.40	13.41	
39 IBES FY1 Mean FFO Revision, 3M	Ascending	4,952	11.18	5.94	4.29	2.75	5.67	0.48	16.27	(14.53)	0.00	143	3,861	74.13	67.74	
40 IBES FY1 Mean ROE Revision, 1M	Ascending	7,251	4.61	2.28	1.87	1.76	4.09	0.43	13.70	(10.51)	0.00	198	5,297	69.70	14.20	
41 IBES FY1 Mean ROE Revision, 3M	Ascending	7,153	4.97	2.93	2.21	2.16	5.01	0.43	13.57	(13.58)	0.00	196	5,165	69.39	68.36	
42 Target price implied return	Descending	8,085	8.39	3.10	1.09	0.84	14.76	0.06	55.58	(36.25)	0.47	162	6,210	52.47	82.33	
43 Recommendation, mean	Descending	8,330	5.73	2.46	2.33	1.76	6.87	0.26	17.41	(16.84)	0.00	231	7,160	65.37	94.43	
44 Mean recommendation revision, 3M	Descending	8,294	1.39	1.12	1.44	1.90	2.93	0.65	10.01	(10.13)	0.00	228	7,138	75.44	60.07	
5. Quality																
45 Return on Equity	Ascending	9,176	2.00	4.21	3.99	4.28	10.24	0.42	30.68	(34.69)	0.00	230	7,638	66.09	97.11	
46 return on capital	Ascending	9,288	2.35	3.65	3.74	4.53	12.40	0.37	49.47	(34.02)	0.00	278	6,920	64.75	97.95	
47 Return on Assets	Ascending	9,395	6.07	4.88	4.78	4.71	13.31	0.35	44.20	(30.31)	0.00	278	7,018	63.67	98.16	
48 Asset Turnover	Ascending	9,416	5.18	2.33	3.02	2.46	16.25	0.15	44.64	(51.55)	0.01	278	7,512	57.91	99.84	
49 Gross margin	Ascending	8,624	1.75	2.69	1.96	1.83	5.87	0.31	16.60	(13.45)	0.00	278	6,829	62.95	98.88	
50 EBITDA margin	Ascending	9,398	5.65	3.91	3.37	3.94	13.84	0.28	42.97	(41.30)	0.00	278	7,532	59.35	96.82	
51 Berry Ratio	Ascending	7,217	(1.26)	1.09	1.45	2.99	9.32	0.32	29.57	(20.79)	0.00	278	5,270	60.43	97.68	
52 IBES FY1 EPS dispersion	Descending	7,976	15.11	3.25	2.91	0.35	9.47	0.04	32.68	(25.37)	0.54	278	6,420	50.36	87.90	
53 IBES 5Y EPS growth/stability	Ascending	7,884	1.58	1.96	2.23	1.46	6.03	0.24	18.66	(20.47)	0.00	278	6,167	58.63	98.30	
54 YoY change in debt outstanding	Descending	7,713	0.74	0.00	(0.02)	0.22	3.93	0.05	11.51	(11.34)	0.36	278	6,258	52.88	91.54	
55 Current ratio	Descending	7,740	(1.37)	1.40	0.67	0.65	8.95	0.07	27.86	(27.01)	0.22	278	6,121	50.00	98.50	
56 Long-term debt/equity	Ascending	9,279	(1.70)	2.94	1.09	0.78	6.49	0.12	22.37	(18.17)	0.04	278	7,425	54.68	98.88	
57 Merton's distance to default	Ascending	7,876	10.16	4.35	3.53	2.59	11.22	0.23	31.19	(31.18)	0.00	278	6,434	59.71	93.26	
58 Capex to Dep	Descending	7,037	5.95	3.62	1.85	1.36	6.38	0.21	22.38	(19.93)	0.00	278	5,092	60.79	96.89	
6. Technicals																
59 Realized vol, 1Y daily	Descending	9,614	13.77	7.11	4.69	5.11	15.43	0.33	29.45	(44.64)	0.00	278	7,895	61.15	98.97	
60 Skewness, 1Y daily	Descending	9,614	(0.07)	1.40	1.66	1.64	5.36	0.31	15.03	(32.98)	0.00	278	7,895	64.03	90.02	
61 Moving average crossover, 15W-36W	Ascending	9,359	5.18	4.79	1.33	2.92	14.66	0.20	37.15	(45.46)	0.00	278	6,874	62.23	91.35	
62 Normalized abnormal volume	Ascending	9,777	4.06	2.44	2.41	2.20	6.55	0.34	20.47	(14.71)	0.00	278	7,844	60.43	66.17	

Note:

1 Direction indicates how the factor scores are sorted. Ascending order means higher factor scores are likely to be associated with higher subsequent stock returns, and vice versa for descending order.

2 P-value indicates the statistical significance of the factor's performance. A smaller p-value suggests that it is more likely the factor's performance is different from zero.

3 This is the autocorrelation of the factor scores over time. Higher serial correlation indicates lower portfolio turnover based on the factor.

Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



Bottom-up stock selection

QCD U.S. stock selection model

- The QCD model is our flagship stock selection model for U.S. equities.
- The model incorporates a number of unique features including dynamic factor selection, a non-linear TREE component, and active style and sector rotation.
- For complete details on the model, please see Luo et al., "QCD Model: DB Quant Handbook", 22 July 2010.

Current stock recommendations

Figure 10 shows the best 20 buy ideas and sell ideas from today's model. Note that a complete ranking for all Russell 3000 stocks is available in spreadsheet format. If you would like to get a copy of the spreadsheet, please contact us at DBEQS.Americas@db.com.

Figure 10: Current QCD model stock recommendations

BEST BUY IDEAS (SECTOR NEUTRAL)					BEST SELL IDEAS (SECTOR NEUTRAL)				
Ticker	Name	CUSIP	GICS Sector	QCD Score (higher is better long)	Ticker	Name	CUSIP	GICS Sector	QCD Score (lower is better short)
ZZ	SEALY CORP	812139301	Consumer Discretionary	26.1%	KIOR	KIOR INC	497217109	Energy	-35.6%
CVH	COVENTRY HEALTHCARE INC	222862104	Health Care	24.4%	SZYM	SOLAZyme INC	834157101	Energy	-30.7%
OSTK	OVERSTOCK.COM INC	690370101	Consumer Discretionary	23.7%	PRKR	PARKERVISION INC	701354102	Information Technology	-29.8%
PRSC	PROVIDENCE SERVICE CORP	743815102	Health Care	23.6%	DSCO	DISCOVERY LABORATORIES INC	254668403	Health Care	-29.7%
EPHC	EPOCH HOLDING CORP	294283103	Financials	18.9%	PANL	UNIVERSAL DISPLAY CORP	913479105	Information Technology	-28.7%
C	CTI GROUP INC	172967424	Financials	18.6%	ALUMN	GOLDEN MINERALS CO	381119105	Materials	-27.2%
TSN	TYSON FOODS INC -CLA	902494103	Consumer Staples	18.6%	ZIOP	ZIOPHARMONCOLOGY INC	989739101	Health Care	-26.3%
WMRT	WAL-MART STORES INC	931142103	Consumer Staples	16.9%	TWER	TOWERSTREAM CORP	882000100	Telecommunication Services	-23.4%
OSK	OSHKOSH CORP	688239201	Industrials	15.0%	CDZI	CADIZ INC	127537207	Utilities	-22.6%
CDNS	CADENCE DESIGN SYSTEMS INC	127387108	Information Technology	14.8%	ACRN	ACORN ENERGY INC	004848107	Industrials	-22.4%
SAI	SAIC INC	783904101	Information Technology	14.2%	MLK	MCMAN MINING INC	580399107	Materials	-21.3%
INT	WORLD FUEL SERVICES CORP	981475105	Energy	13.7%	GSVC	GSV CAPITAL CORP	361919101	Financials	-21.2%
ABM	ABM INDUSTRIES INC	000957100	Industrials	13.5%	OVEX	ODYSSEY MARINE EXPLORATION	676118102	Industrials	-20.4%
VNR	WESTERN REFINING INC	959319104	Energy	12.3%	PNK	PHOENIX COMPANIES INC	719026104	Financials	-18.4%
SHLM	SCHLUMBER (A) INC	808181104	Materials	12.2%	ADGE	AMERICAN DG ENERGY INC	025388108	Utilities	-17.7%
STLD	STEEL DYNAMICS INC	858119100	Materials	11.7%	NLS	NTELOS HOLDINGS CORP	670202805	Telecommunication Services	-16.3%
IDT	IDT CORP	448947507	Telecommunication Services	11.7%	TSLA	TESLA MOTORS INC	881609101	Consumer Discretionary	-16.1%
UG	UGI CORP	902681105	Utilities	4.5%	DMND	DIAMOND FOODS INC	252603105	Consumer Staples	-16.1%
FRP	FAIRPOINT COMMUNICATIONS INC	305560302	Telecommunication Services	4.5%	STZ	CONSTELLATION BRANDS	210369108	Consumer Staples	-12.7%
NEE	NEXTERA ENERGY INC	65339F101	Utilities	2.2%	FSYS	FUEL SYSTEMS SOLUTIONS INC	399529103	Consumer Discretionary	-12.2%

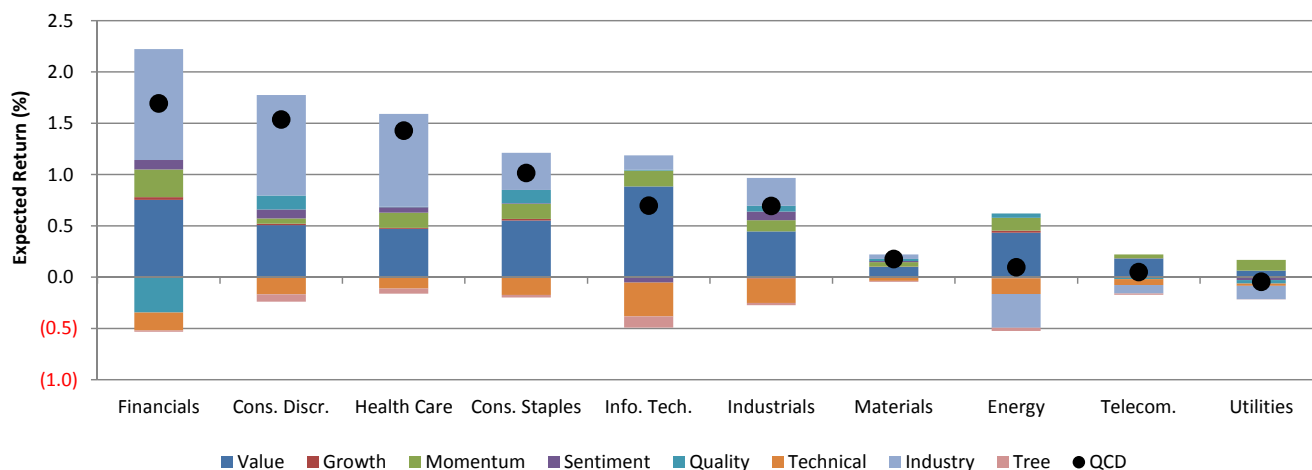
Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Current sector recommendations

The QCD model also implicitly makes sector predictions. Figure 11 shows the current ranking of the 10 GICS Level 1 Sectors, ranked from best (most likely to outperform this month) to worse (least likely to outperform). The bars show the key drivers for each call.



Figure 11: Current QCD sector recommendations

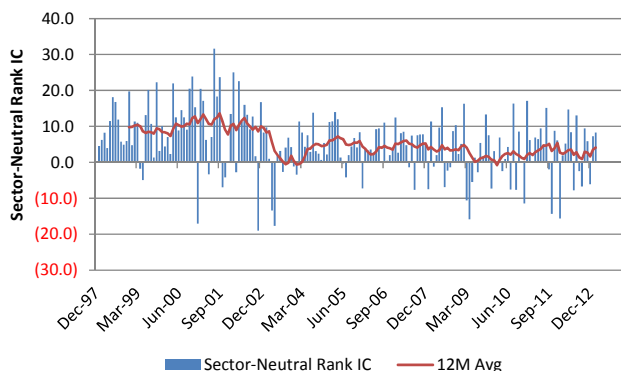


Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Model performance

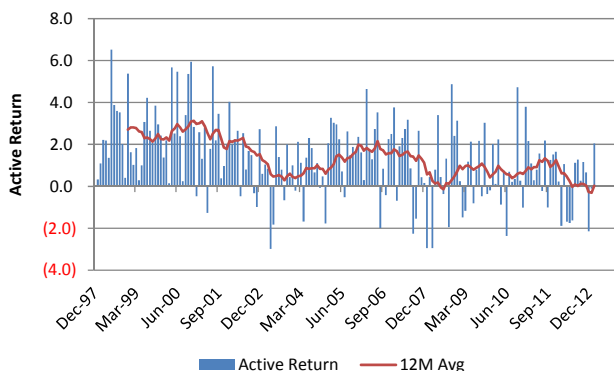
The QCD model has performed well since inception. Figure 12 shows the pure signal performance, measured as a monthly sector-neutral rank information coefficient (IC). Figure 13 shows the performance of an actual model portfolio, after costs, based on a realistically optimized market-neutral strategy.

Figure 12: Model performance, sector-neutral rank IC



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 13: Model portfolio active return, after costs

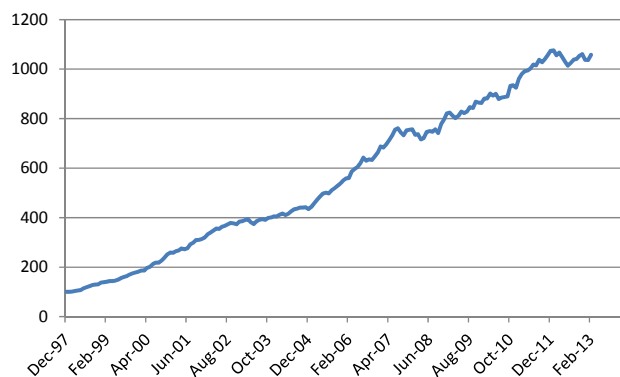


Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 14 shows the cumulative performance of the optimized strategy, and Figure 15 shows the annualized Sharpe ratio (after costs) by calendar year.

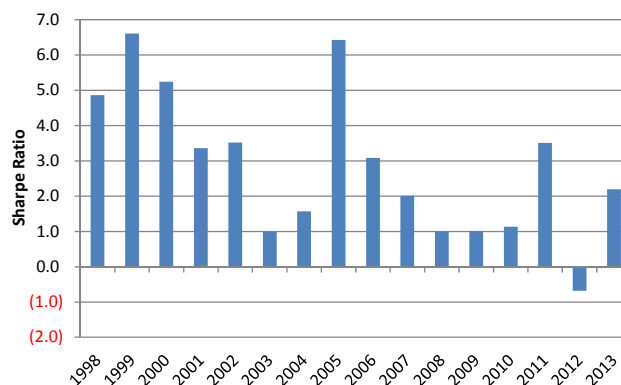


Figure 14: Model portfolio cumulative, after costs



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 15: Annualized Sharpe ratio, after costs



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



N-LASR global stock selection model

- The N-LASR model is our flagship stock selection model for global equities.
- The model is based on a machine learning algorithm called AdaBoost, and is designed to adaptively learn which factors to use, often in a non-linear way.
- For complete details on the model, please see Wang et al., "Signal Processing: The Rise of the Machines", 5 June 2012.

Current stock recommendations

Figure 16 shows the best 20 buy ideas and sell ideas from today's model. Note that a complete ranking for all global stocks is available in spreadsheet format. If you would like to get a copy of the spreadsheet, please contact us at DBEQS.Americas@db.com.

Figure 16: Current N-LASR model stock recommendations

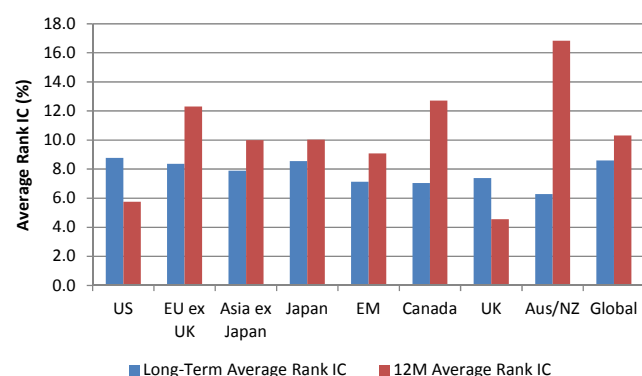
BEST BUY IDEAS					BEST SELL IDEAS				
Ticker	Name	SEDOL	Country	N-LASRScore (higher is better long)	Ticker	Name	SEDOL	Country	N-LASRScore (higher is better long)
EAT	BRINGER INT'L INC	2193544	USA	2.26	APKT	ACTIVE PACKET INC	B17VACB0	USA	-2.47
SKE AU	Skilled Group Limited	679951	Australia	2.22	8078 TT	Compel Communications Inc	671286	Taiwan	-2.46
PZU PW	Powzedny Zaklad Ubezpiezen SA	663062	Poland	2.05	FEES RX	Federal Grid Co Unified Energy Sys	859RSV	Russia	-2.40
RNST	RENASANT CORP	2670809	USA	2.05	9501 JT	Tokyo Electric Power Co	689540	Japan	-2.37
TUP	TUPPERWARE BRANDS CORP	2872069	USA	2.04	7717 JT	V Technology Co Ltd	630198	Japan	-2.36
DPWGY	Deutsche Post AG	461785	Germany	2.03	2408 TT	Nanya Technology Corp	628360	Taiwan	-2.34
CBS	CBS CORP	805RLH6	USA	2.01	CPL AU	Coalpur Mines Ltd	698499	Australia	-2.26
HCSG	HEALTHCARE SERVICES GROUP	2417619	USA	2.01	ALK AU	Alkane Resources Limited	601402	Australia	-2.24
TIX	TIX COMPANIES INC	2989301	USA	1.98	2388 TT	Via Technologies Inc	614682	Taiwan	-2.23
POOL	POOL CORP	2781585	USA	1.98	ZORENTI	Zorlu Enerji Elektrik Uretim	809M2P	Turkey	-2.22
2376 TT	Giga Byte Technology Co Ltd	612918	Taiwan	1.96	RED AU	Red S Ltd	636755	Australia	-2.22
CEQNO	Cermaq ASA	80XC58	Norway	1.96	SVU	SUPERVALU INC	2863610	USA	-2.22
ALZ AU	Australand Property Group	600946	Australia	1.95	12360 KS	Sapphire Technology Co Ltd	84QVWH	Korea	-2.21
NHF AU	NIB Holdings Limited	8282V6	Australia	1.95	8518 JT	Japan Asia Investment Co Ltd	648147	Japan	-2.19
AEO	AMERIN EAGLE OUTFITTERS INC	2048592	USA	1.92	5725 JT	Osaka Titanium Technologies Co Ltd	644771	Japan	-2.19
FFIC	FLUSHING FINANCIAL CORP	2360111	USA	1.91	EXEL	EXELUS INC	2576941	USA	-2.18
UBSH	UNION FIRST MARKET BANK SHARS	83M1992	USA	1.90	1029 HK	IRC Ltd	83ND01	Russia	-2.17
TLW	TIME WARNER INC	863QTN2	USA	1.89	ICLLAV	Interroll AG	8067M9	Austria	-2.17
ULNA	Unibail - Rodamco	81WY4B	France	1.88	1101 HK	China Rongsheng Heavy Industry G	85NSAF	China	-2.13
LTOIM	Lottomatica SpA	80V3MR	Italy	1.88	FIO	FUSION-IO INC	866CP77	USA	-2.13

Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Model performance

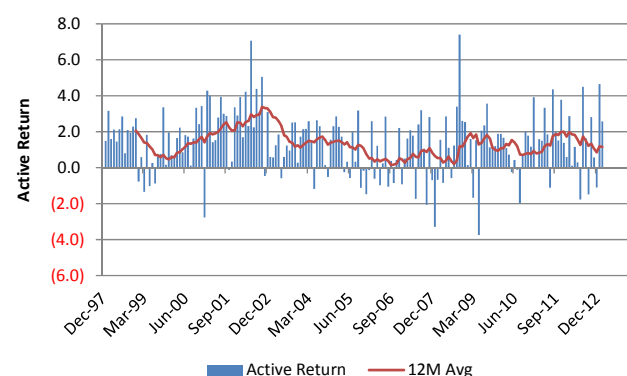
The N-LASR model has performed well since inception. Figure 17 shows the average pure signal performance, measured as a monthly rank information coefficient (IC), in different regions. Figure 18 shows the performance of a global model portfolio, after costs, based on a realistically optimized market-neutral strategy.

Figure 17: Regional model performance, average rank IC



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 18: Global portfolio active return, after costs

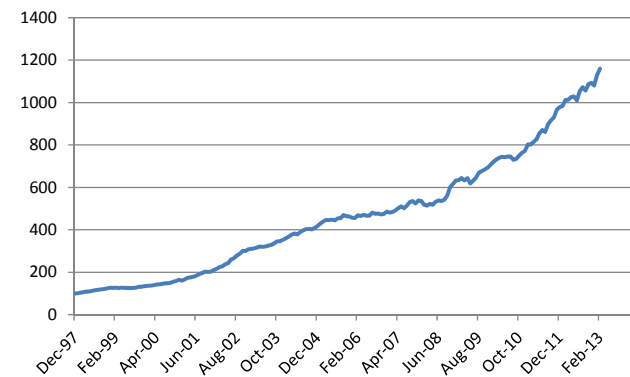


Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



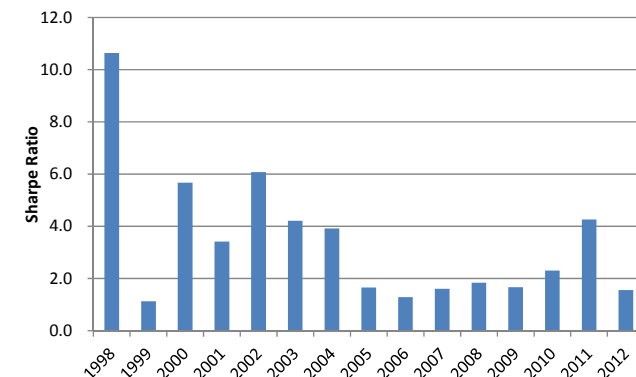
Figure 19 shows the cumulative performance of the optimized strategy, and Figure 20 shows the annualized Sharpe ratio (after costs) by calendar year.

Figure 19: Global portfolio cumulative, after costs



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 20: Annualized Sharpe ratio, after costs



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



Top-down country rotation

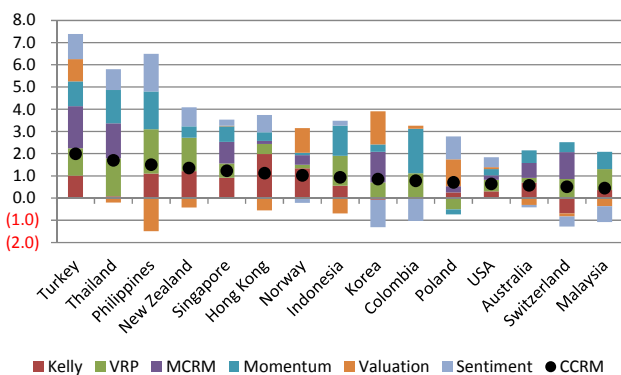
CCRM country rotation model

- Our Composite Country Rotation Model (CCRM) uses three sets of inputs to dynamically rotate between countries in the MSCI All Country World Index.
- The inputs include top-down macro signals (e.g. VRP, Kelly's Tail Risk), aggregate bottom-up fundamental signals (e.g. country-level valuation and momentum), and lead-lag signals based on economic trade linkages.
- For complete details on the model, please see Luo et al., "Signal Processing: New Insights in Country Rotation", 9 February 2012.

Current recommendations

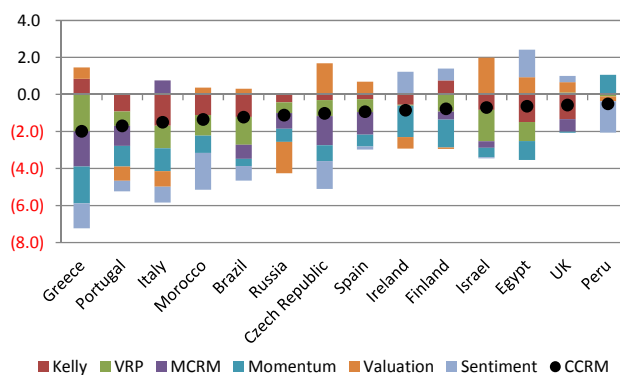
Figure 21 and Figure 22 show the top and bottom third of countries, as ranked currently by our CCRM model. The bars show what is driving these calls.

Figure 21: Top tercile countries



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 22: Bottom tercile countries

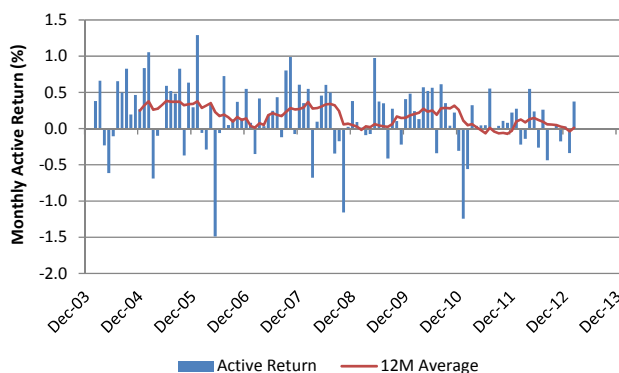


Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Model performance

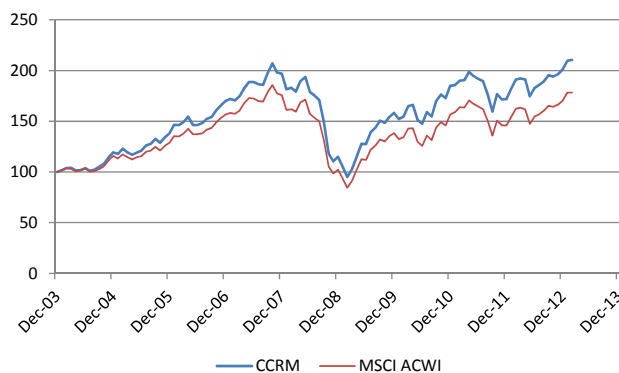
Figure 23 and Figure 24 show the performance of the model over time.

Figure 23: Monthly returns



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 24: Cumulative performance



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



Top-down asset allocation

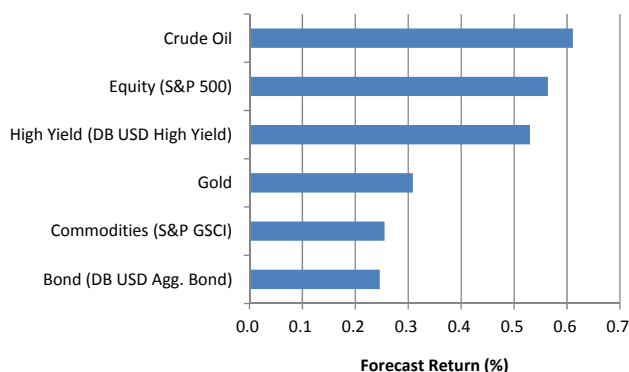
Quant Tactical Asset Allocation (QTAA) model

- Our Quantitative Tactical Asset Allocation (QTAA) model uses a model-of-models methodology to rotate between six asset classes.
- The model uses a wide range of fundamental and market-based factors as inputs, and dynamically selects a subset of those factors to use at each point in time.
- For complete details on the model, please see Luo et al., "Signal Processing: Quant Tactical Asset Allocation", 19 September 2011.

Current recommendations and performance

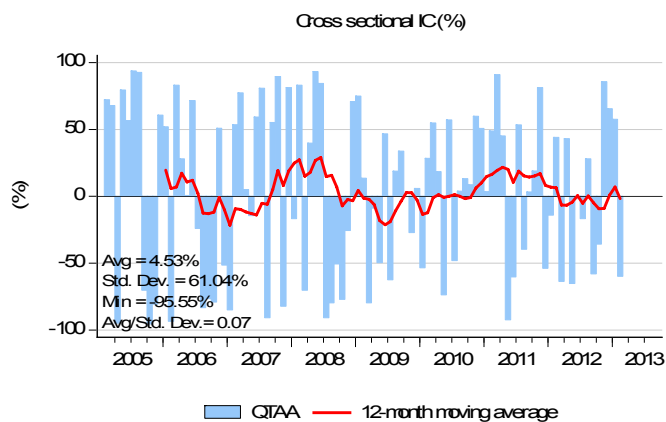
Figure 25 shows the current ranking of our six asset classes, ranked from best to worse in terms of month-ahead forecast returns. Figure 26 shows the monthly performance of the QTAA model over time.

Figure 25: Current QTAA forecasts



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 26: Performance of QTAA model



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



Top-down style rotation

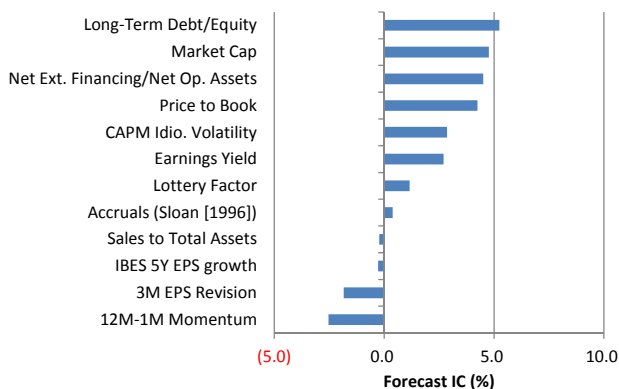
Style rotation model

- Our Style Rotation model dynamically rotates between 12 “typical” quant factors.
- The model uses market-based and macroeconomic inputs to predict month-ahead factor returns using a backwards stepwise linear regression model.
- For complete details on the model, please see Luo et al., “Signal Processing: Style Rotation”, 7 September 2010.

Current recommendations and performance

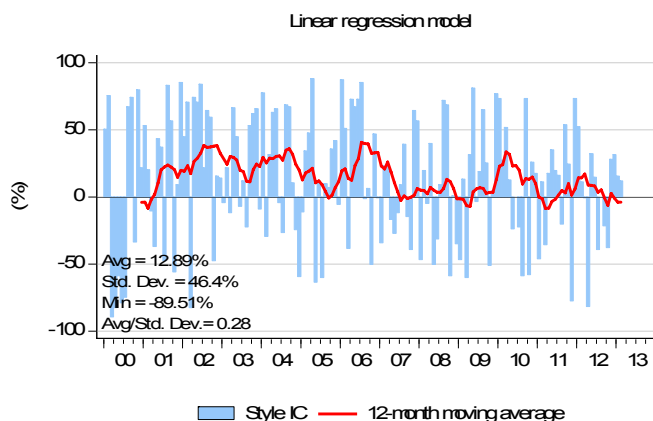
Figure 27 shows the current ranking of our 12 factors, ranked from best to worse in terms of month-ahead forecast performance. Figure 28 shows the monthly performance of the Style Rotation model over time.

Figure 27: Current style rotation forecasts



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank

Figure 28: Performance of style rotation model



Source: Bloomberg Finance LLP, Compustat, IBES, MSCI, Russell, S&P, Thomson Reuters, Worldscope, Deutsche Bank



Appendix 1

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