

Appendix 3a: S&P 500 Firms' Percent Change in Number of Basic Shares Outstanding, Q1-2011 to Q4-2018 (sorted by % change)

APTV	Aptiv PLC	-61.8	LLL	L3 Technologies	-27.4	COP	ConocoPhillips	-19.6	RSG	Republic Services	-15.2	LLY	Eli Lilly	-9.1
MSI	Motorola Solutions	-51.5	EBAY	eBay	-27.2	PH	Parker-Hannifin	-19.6	PRU	Prudential Financial	-14.9	NTRS	Northern Trust	-9.0
GLW	Corning	-49.4	FL	Foot Locker	-27.1	GWV	W W Grainger	-19.5	APH	Amphenol	-14.5	STZ	Constellation Brands	-8.8
CBS	CBS	-44.5	CTAS	Cintas	-26.7	IPG	Interpublic Group	-19.4	ALK	Alaska Air Group	-14.4	FBHS	Fortune Bnds Home & Sec'y	-8.8
KSS	Kohls	-44.1	AAPL	Apple	-26.7	GILD	Gilead Sciences	-19.2	KMB	Kimberly-Clark	-14.3	ANSS	ANSYS	-8.8
AMP	Ameriprise Financial	-43.8	QCOM	Qualcomm	-26.7	HIG	Hartford Financial Services	-19.2	MAS	Masco	-14.3	AAP	Advance Auto Parts	-8.7
ORLY	O'Reilly Automotive	-43.2	PHM	PulteGroup	-26.5	DAL	Delta Air Lines	-18.9	CAH	Cardinal Health	-14.2	VFC	VF	-8.7
AIG	American Int'l Group	-43.1	PSX	Phillips 66	-26.5	CSCO	Cisco Systems	-18.8	INTU	Intuit	-14.2	RHT	Red Hat	-8.7
NOC	Northrop Grumman	-41.1	ORCL	Oracle	-26.4	AFL	Aflac	-18.8	FLIR	FLIR Systems	-14.2	MSFT	Microsoft	-8.6
AZO	Autozone	-40.9	IBM	Int'l Business Machines	-26.2	CMI	Cummins	-18.8	XOM	Exxon Mobil	-14.0	BAX	Baxter International	-8.5
LOW	Lowe's Companies	-39.7	MCD	McDonald's	-26.2	LMT	Lockheed Martin	-18.7	LB	L Brands	-13.9	A	Agilent Technologies	-8.4
DFS	Discover Financial Services	-39.1	IR	Ingersoll-Rand PLC	-26.2	EXPD	Expeditors International	-18.7	DVA	DaVita	-13.8	EL	Estee Lauder Companies	-8.1
TRV	Travelers Companies	-38.4	FITB	Fifth Third Bancorp	-25.9	SPGI	S&P Global	-18.5	CHD	Church & Dwight	-13.7	HAS	Hasbro	-8.0
AIZ	Assurant	-37.8	VLO	Valero Energy	-25.8	WAT	Waters	-18.4	MOS	Mosaic	-13.6	AOS	A. O. Smith	-8.0
TMK	Torchmark	-36.4	PPG	PPG Industries	-25.7	TXN	Texas Instruments	-18.4	PM	Philip Morris International	-13.3	UTX	United Technologies	-7.7
CF	CF Industries Holdings	-35.8	RE	Everest Re Group Ltd	-25.6	MMM	3M	-18.4	HES	Hess	-13.2	HSY	Hershey	-7.5
ALL	Allstate	-35.6	UNP	Union Pacific	-25.5	HUM	Humana	-18.4	TXT	Textron	-13.1	MET	MetLife	-7.4
GPS	Gap	-35.0	FFIV	F5 Networks	-25.5	AVY	Avery Dennison	-18.3	WYNN	Wynn Resorts Ltd	-13.0	CMA	Comerica	-7.4
JNPR	Juniper Networks	-34.9	LUV	Southwest Airlines	-25.4	CMCSA	Comcast	-18.1	AKAM	Akamai Technologies	-12.8	TROW	T. Rowe Price Group	-7.4
ATVI	Activision Blizzard	-34.8	CSX	CSX	-25.1	GE	General Electric	-18.0	UPS	United Parcel Service	-12.7	OXY	Occidental Petroleum	-7.2
STX	Seagate Technology PLC	-34.8	CELG	Celgene	-25.0	ROK	Rockwell Automation	-17.8	BFb	Brown-Forman	-12.2	GPC	Genuine Parts	-7.1
KR	Kroger	-34.4	TGT	Target	-24.9	RF	Regions Financial	-17.7	ADP	Automatic Data Processing	-12.2	KO	Coca-Cola	-7.0
ITW	Illinois Tool Works	-33.8	IDXX	IDEXX Laboratories	-24.8	CVS	CVS Health	-17.6	CL	Colgate-Palmolive	-12.2	PKG	Packaging of America	-7.0
YUM	Yum! Brands	-33.8	JWN	Nordstrom	-24.7	UAL	United Continental Holdings	-17.4	HII	Huntington Ingalls Industries	-12.1	MMC	Marsh & McLennan Cos	-7.0
V	Visa	-33.5	DE	Deere	-24.3	CPRT	Copart	-17.3	PFG	Principal Financial Group	-12.1	MAR	Marriott International	-6.8
XRX	Xerox	-32.9	L	Loews	-24.2	C	Citigroup	-17.3	PNC	PNC Financial Svcs Group	-12.0	MXIM	Maxim Integrated Products	-6.8
MSCI	MSCI	-32.9	MCK	McKesson	-23.9	BIIB	Biogen	-17.3	ADM	Archer Daniels Midland	-11.9	RMD	Resmed	-6.7
LNC	Lincoln National	-32.9	NSC	Norfolk Southern	-23.8	SBUX	Starbucks	-17.2	SHW	Sherwin-Williams	-11.8	FMC	FMC	-6.7
HRB	H & R Block	-32.7	STT	State Street	-23.6	WMT	Walmart	-17.2	SWK	Stanley Black & Decker	-11.7	NDAQ	Nasdaq	-6.6
LYB	LyondellBasell Industries NV	-32.6	DG	Dollar General	-23.5	BLK	BlackRock	-17.2	WFC	Wells Fargo	-11.6	HON	Honeywell International	-6.6
VIAB	Viacom	-32.2	BEN	Franklin Resources	-23.3	EMR	Emerson Electric	-17.0	CCL	Carnival	-11.4	IP	International Paper	-6.5
NTAP	NetApp	-32.1	BA	Boeing	-23.2	MDLZ	Mondelez International	-16.9	UNH	UnitedHealth Group	-11.3	BKNG	Booking Holdings	-6.5
FISV	Fiserv	-32.0	MTD	Mettler-Toledo Int'l	-23.1	FDX	FedEx	-16.8	SYV	Sysco	-11.3	HBI	HanesBrands	-6.4
AMGN	Amgen	-31.7	VAR	Varian Medical Systems	-22.9	NKE	Nike	-16.8	PEP	PepsiCo	-11.0	BR	Broadridge Fin'l Solutions	-6.4
WU	Western Union	-31.6	TEL	TE Connectivity Ltd	-22.8	RHI	Robert Half International	-16.8	PG	Procter & Gamble	-10.8	BWA	BorgWarner	-6.3
ANTM	Anthem	-30.9	ABC	AmerisourceBergen	-22.7	INTC	Intel	-16.6	CMG	Chipotle Mexican Grill	-10.7	ABBV	AbbVie	-6.3
HOG	Harley-Davidson	-30.7	KMX	Carmax	-22.7	CHRW	C.H. Robinson Worldwide	-16.6	PGR	Progressive	-10.6	IT	Gartner	-6.3
UNM	Unum Group	-30.6	HCA	HCA Healthcare	-22.6	SYMC	Symantec	-16.5	WM	Waste Management	-10.6	CPB	Campbell Soup	-6.2
BBY	Best Buy	-30.4	CPRI	Capri Holdings Ltd	-21.8	MCO	Moody's	-16.4	JKHY	Jack Henry & Associates	-10.4	GIS	General Mills	-6.2
HD	Home Depot	-30.2	DOV	Dover	-21.8	WHR	Whirlpool	-16.3	LEG	Leggett & Platt	-10.2	CLX	Clorox Co	-6.1
PWR	Quanta Services	-30.2	FLS	Flowserve	-21.6	HSIC	Henry Schein	-16.3	STI	SunTrust Banks	-10.1	GM	General Motors	-6.0
GS	Goldman Sachs	-29.8	DIS	Walt Disney	-21.5	RL	Ralph Lauren	-16.3	MO	Altria Group	-10.0	HRS	Harris	-5.8
VRSN	Verisign	-29.1	GD	General Dynamics	-21.3	JPM	JPMorgan Chase	-16.2	NOV	National Oilwell Varco	-10.0	TSS	Total System Services	-5.7
AXP	American Express	-28.9	TJX	TJX	-20.9	TSCO	Tractor Supply	-16.0	JBHT	J B Hunt Transport Services	-9.9	UHS	Universal Health Services	-5.3
AON	Aon PLC	-28.6	OMC	Omnicom Group	-20.7	USB	U.S. Bancorp	-15.9	CAT	Caterpillar	-9.6	CTSH	Cognizant Tech Solutions	-5.3
CTXS	Citrix Systems	-28.6	MA	Mastercard	-20.6	CE	Celanese	-15.9	EW	Edwards Lifesciences	-9.4	CVX	Chevron	-5.0
HPQ	HP	-27.6	ROST	Ross Stores	-20.4	DGX	Quest Diagnostics	-15.8	BSX	Boston Scientific	-9.3	TIF	Tiffany	-4.6
AMAT	Applied Materials	-27.5	RTN	Raytheon	-20.4	AES	AES	-15.5	EA	Electronic Arts	-9.3	HAL	Halliburton	-4.6
M	Macy's	-27.5	FLR	Fluor	-20.3	IVZ	Invesco Ltd	-15.5	KLAC	KLA-Tencor	-9.2	PCAR	Paccar	-4.5
PFE	Pfizer	-27.5	BK	Bank of New York Mellon	-20.2	MRK	Merck	-15.2	DRI	Darden Restaurants	-9.2	K	Kellogg	-4.4

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AME	Ametek	-4.2	EIX	Edison International	0.0	FIS	Fidelity Natl Info Svcs	7.8	SO	Southern Co	21.7	PPL	PPL	48.8
GT	Goodyear Tire & Rubber	-4.1	HRL	Hormel Foods	0.0	DVN	Devon Energy	8.0	BDX	Becton Dickinson	21.8	FE	FirstEnergy	50.0
CI	Cigna	-4.1	SNPS	Synopsys	0.6	GOOG	Alphabet	8.1	HBAN	Huntington Bancshares	22.1	NFX	Newfield Exploration	50.4
BMV	Bristol-Myers Squibb	-4.1	COST	Costco Wholesale	0.6	GOOGL	Alphabet	8.1	ALXN	Alexion Pharmaceuticals	22.9	LIN	Linde PLC	50.7
SYK	Stryker	-4.0	AEE	Ameren	1.6	NEM	Newmont Mining	8.1	ADI	Analog Devices	22.9	FCX	Freemport-McMoRan	53.2
XLNX	Xilinx	-4.0	SLB	Schlumberger NV	1.8	MAC	Macerich	8.1	T	AT&T	23.3	NWL	Newell Brands	53.5
SNA	Snap-On	-4.0	AMG	Affiliated Managers Group	1.9	ROP	Roper Technologies	8.2	CBOE	Cboe Global Markets	23.4	ICE	Intercontinental Exchange	55.0
ZTS	Zoetis	-3.9	NVDA	NVIDIA	2.2	MGM	MGM Resorts Int'l	8.2	NCLH	Norwegian Cruise Line	23.6	XRAY	Dentsply Sirona	57.1
ADSK	Autodesk	-3.8	VMC	Vulcan Materials	2.3	EXPE	Expedia Group	8.4	ECL	Ecolab	24.1	NKTR	Nektar Therapeutics	59.5
SWKS	Skyworks Solutions	-3.7	ETR	Entergy	2.4	AMZN	Amazon.com	8.6	WDC	Western Digital	25.0	DUK	Duke Energy	59.7
MPC	Marathon Petroleum	-3.7	HP	Helmerich and Payne	2.5	BXP	Boston Properties	8.7	SIVB	SVB Financial Group	25.1	AVB	AvalonBay Communities	60.0
RCL	Royal Caribbean Cruises	-3.5	AEP	American Electric Power	2.5	LKQ	LKQ	9.0	MCHP	Microchip Technology	25.3	TWTR	Twitter	60.2
ADBE	Adobe	-3.2	AWK	American Water Works	2.7	HST	Host Hotels & Resorts	9.3	LRCX	Lam Research	25.3	HFC	HollyFrontier	61.7
KSU	Kansas City Southern	-3.0	PSA	Public Storage	2.8	FLT	Fleetcor Technologies	9.6	MDT	Medtronic PLC	25.6	AVGO	Broadcom	63.7
FAST	Fastenal	-3.0	APD	Air Products and Chemicals	2.9	ETFC	E*TRADE Financial	9.6	EQR	Equity Residential	25.8	AJG	Arthur J Gallagher	68.0
TSN	Tyson Foods	-2.9	MNST	Monster Beverage	3.1	XEC	Cimarex Energy	9.7	VRTX	Vertex Pharmaceuticals	26.0	EQIX	Equinix	68.1
DLTR	Dollar Tree	-2.9	PNW	Pinnacle West Capital	3.1	BBT	BB&T	10.0	ETN	Eatonoratorn PLC	26.4	INCY	Incyte	72.5
PKI	PerkinElmer	-2.9	KIM	Kimco Realty	3.2	AMT	American Tower	10.8	HCP	HCP	27.0	QRVO	Qorvo	74.3
VRSK	Verisk Analytics	-2.8	WBA	Walgreens Boots Alliance	3.2	JEC	Jacobs Engineering Group	11.1	DISCA	Discovery	27.6	PNR	Pentair PLC	76.2
GRMN	Garmin Ltd	-2.6	TRIP	TripAdvisor	3.2	SCHW	Charles Schwab	11.8	DISCK	Discovery	27.6	LEN	Lennar	76.9
XYL	Xylem	-2.6	COG	Cabot Oil & Gas	3.4	IPGP	IPG Photonics	12.6	FRC	First Republic Bank	27.9	DXC	DXC Technology	78.1
ULTA	Ulta Beauty	-2.5	TMO	Thermo Fisher Scientific	3.4	CMS	CMS Energy	13.0	AIV	Apartment Investm't & Mgt	30.2	ES	Eversource Energy	79.1
ISRG	Intuitive Surgical	-2.3	VNO	Vornado Realty Trust	3.5	EOG	EOG Resources	13.1	PCG	PG&E	31.3	OKE	ONEOK	92.4
BAC	Bank of America	-2.2	COF	Capital One Financial	3.5	PVH	PVH	13.2	IRM	Iron Mountain	32.1	ARE	Alexandria R.E.Equities	93.0
SEE	Sealed Air	-2.2	HOLX	Hologic	3.7	FTNT	Fortinet	13.3	NI	NiSource	32.3	CXO	Concho Resources	94.5
JNJ	Johnson & Johnson	-2.2	ALGN	Align Technology	4.0	ABT	Abbott Laboratories	13.5	URI	United Rentals	32.4	WLTW	Willis Towers Watson PLC	98.3
NUE	Nucor	-2.2	ZION	Zions Bancorporation NA	4.1	D	Dominion Energy	13.8	FB	Facebook	34.5	WMB	Williams Companies	103.4
CAG	Conagra Brands	-2.0	CDNS	Cadence Design Systems	4.7	SRE	Sempra Energy	14.3	JEF	Jefferies Financial	34.8	REG	Regency Centers	103.8
SJM	J M Smucker	-1.9	CME	CME Group	5.0	MU	Micron Technology	14.7	WEC	WEC Energy	35.0	CNC	Centene	106.6
CERN	Cerner	-1.9	F	Ford Motor	5.2	NEE	Nextera Energy	14.9	NBL	Noble Energy	36.4	ESS	Essex Property Trust	109.8
EFX	Equifax	-1.7	SLG	SL Green Realty	5.3	MS	Morgan Stanley	15.0	CB	Chubb	36.6	JCI	Johnson Controls	114.1
TPR	Tapestry	-1.7	TDG	TransDigm Group	5.5	KEY	KeyCorp	15.5	MLM	Martin Marietta Materials	37.5	UA	Under Armour	116.7
ROL	Rollins	-1.4	DISH	DISH Network	5.5	ALB	Albemarle	15.7	ARNC	Arconic	37.7	UAA	Under Armour	116.7
BRKb	Berkshire Hathaway	-1.2	SPG	Simon Property Group	5.5	TAP	Molson Coors Brewing	15.7	AAL	American Airlines Group	38.3	CHTR	Charter Communications	121.7
EMN	Eastman Chemical	-1.2	ADS	Alliance Data Systems	5.6	ILMN	Illumina	16.2	TTWO	Take-Two Interactive Sftwr	38.4	VTR	Ventas	122.1
ACN	Accenture PLC	-1.1	BHGE	Baker Hughes A GE Co	5.7	MRO	Marathon Oil	16.5	IFF	Int'l Flavors & Fragrances	38.5	DLR	Digital Realty Trust	125.7
APA	Apache	-1.0	ZBH	Zimmer Biomet Holdings	6.0	NRG	NRG Energy	17.0	AMD	Advanced Micro Devices	38.9	EVRG	Evergy	130.0
MAT	Mattel	-1.0	COO	Cooper Companies	6.0	MTB	M&T Bank	17.2	WY	Weyerhaeuser	39.4	WELL	Welltower	144.2
MKC	McCormick & Company	-0.8	DHR	Danaher	6.1	WCG	WellCare Health Plans	17.3	DRE	Duke Realty	42.1	PLD	Prologis	146.9
SBAC	SBA Communications	-0.8	XEL	Xcel Energy	6.3	DHI	D.R. Horton	17.5	CRM	Salesforce.Com	43.5	O	Realtyome	150.1
PAYX	Paychex	-0.7	LNT	Alliant Energy	6.6	MYL	Mylan NV	17.8	EXR	Extra Space Storage	43.6	AGN	Allergan plc	171.0
GPN	Global Payments	-0.6	DTE	DTE Energy	7.1	RJF	Raymond James Financial	17.8	CCI	Crown Castle Int'l	43.9	KMI	Kinder Morgan	218.1
APC	Anadarko Petroleum	-0.4	PBCT	People's United Financial	7.1	CNP	CenterPoint Energy	17.9	EXC	Exelon	45.9	MAA	Mid-America Apt Commun	218.4
PEG	Public Svc Enterprise Group	-0.4	NLSN	Nielsen Holdings PLC	7.2	NFLX	Netflix	18.2	VZ	Verizon Communications	46.2	WRK	Westrock Co	229.2
BLL	Ball	-0.2	CBRE	CBRE Group	7.3	FRT	Fed'l Realty Investm't Trust	20.1	PXD	Pioneer Natural Resources	47.6	FANG	Diamondback Energy	249.4
LH	Laboratoryation of Amer.	-0.1	MHK	Mohawk Industries	7.5	ABMD	Abiomed	21.0	PRGO	Perrigo Company PLC	47.8	CTL	CenturyLink	250.8
CINF	Cincinnati Financial	0.0	ED	Consolidated Edison	7.7	REGN	Regeneron Pharma.	21.3	UDR	UDR	48.0	—	—	—

Note: Data not available over the period for the following S&P 500 companies: Allegion PLC, Arista Networks, Brighthouse Financial, Citizens Financial Group, Coty, DowDuPont, Fortive, Hewlett Packard Enterprise, Hilton Worldwide Holdings, IHS Markit Ltd, IQVIA Holdings, Keysight Technologies, Kraft Heinz, Lamb Weston Holdings, News, PayPal Holdings, Synchrony Financial, TechnipFMC PLC, and Twenty-First Century Fox.
Source: Standard & Poor's.