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Wealth Planning & Investment Management

2019 Market and Economic Outlook

Doylestown, PA | Pittsburgh, PA | Buffalo, NY

Most Impactful Business Trends Of 2019

Each year Winthrop Partners provides its clients with an annual review of a handful of trends and their impact upon the various sectors of the economy.

- **Global Trade, A House of Mirrors** (An examination of Global trade in this Tariff Orientated environment)

- **5G, The Dawn of High-Speed Wireless Communications** (How the coming communication standard will revolutionize connectivity and many industries once it is eventually rolled out)

- **Debt, The Canary in the Coal Mine** (Debt Markets frequently presage Equity Market performance and there may be trouble on the horizon)

- **Algorithms, What Are They and Are They Correct** (Mathematical formulas increasing govern our interactions with governments and commercial enterprise, but are they correct and fair)

- **Attention Investors: Clean-Up in the Center Isles** (How grocery stores and the manufacturers of processed foods, paper goods cosmetics and other goods sold in the center isles are coping with change)

- **Capitalism 5.0** We believe that we are in the 9th inning of Capitalism 4.0. Technology has changed society. Oligopolies are increasing, disenfranchisement and inequality are high and anti-competitive moats continue to be erected. This report looks at the various movements afoot to address these issues.

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Business Trends' Impact Upon Market Sectors

SECTOR	Global Trade	5G Wireless	Debt Markets	Algorithms	Cons.Discr. Chgs.	Capitalism 5.0
(5 = High Impact 1 = Low Impact)						
Consumer Discretionary	3	3	4	4	5	3
Consumer Staples	5	4	4	2	1	3
Energy	5	2	5	2	2	4
Financials	4	4	5	4	2	5
Health Care	1	4	4	5	2	5
Industrials	5	4	5	1	1	4
Information Technology	5	5	3	5	1	5
Basic Materials	5	1	4	2	2	3
Real Estate	2	4	5	3	1	3
Communication Services	4	5	4	5	1	5
Utilities	2	3	5	4	1	3

Business Trends 2018

Overview of Trends' Impact Upon Market Sectors

SECTOR:	Consumer Discretionary	**KEY IMPACT ZONES:**
Trend 1:	Debt Markets	Many CD companies are highly indebted and BBB rated making them particularly vulnerable to higher interest rates
Trend 2:	Algorithms	CD companies generate tremendous amounts of data. Better algorithms will improve analysis
Trend 3:	Chg. to Cons preferences	All elements of the CD industry is roiling as consumer purchasing and consumption behavior shifts
SECTOR:	Consumer Staples	**KEY IMPACT ZONES:**
Trend 1:	Global Trade	With so many products produced overseas, CS companies are being whipsawed by trade battles
Trend 2:	5G Wireless	The internet of things has made virtually all products "computers" 5G will connect these products
Trend 3:	Debt Markets	Consumers defer purchases in recessions and the debt markets are sending some disquieting signals
SECTOR:	Energy	**KEY IMPACT ZONES:**
Trend 1:	Global Trade	The US is now a net global energy exporter and exports are impacted by trade agrements, diagreements and tariffs
Trend 2:	Debt Markets	Energy Cos issue a great deal of BBB debt, continued low oil prices and a recession could push debt into junk territory
Trend 3:	Capitalism 5.0	Populists focus on a few Industries and Oil ,with sporadically large profits, could attract legislative attention
SECTOR:	Financial	**KEY IMPACT ZONES:**
Trend 1:	Debt Markets	Lenders depend on a positive yield curve for profits, if it inverts spreads decline and borrowers default
Trend 2:	Algorithms	Retail customer interactions are handled by algorithms as are program trading and many back office activities
Trend 3:	Capitalism 5.0	Banks are always a target of regulation and the "too Big To Fail" controversy hasn't been settled for many

Overview of Trends' Impact Upon Market Sectors (2)

SECTOR:	Healthcare	**KEY IMPACT ZONES:**
Trend 1:	5G Wireless	5G will target Healthcare early as patients, machines & devices are concentrated and increasingly networked
Trend 2:	Algorithms	Telemedicine, and drug: discovery, testing, ordering and distribution are all heavily dependent on algorithms
Trend 3:	Capitalism 5.0	Like Finance and Energy, Healthcare is a populist target where many believe excessive profits are unfairly generated
SECTOR:	Industrials	**KEY IMPACT ZONES:**
Trend 1:	Global Trade	Industrials source worldwide and have long supply chains which are highly vulnerable to trade disruptions
Trend 2:	5G Wireless	Factories are semi integrated currently, 5G will provide the bandwidth to network inside and outside the factory
Trend 3:	Debt Markets	Industrials are particularly vulnerable to economic cycles and many are highly indebted.
SECTOR:	Information Technology	**KEY IMPACT ZONES:**
Trend 1:	5G Wireless	Many technologies from video streaming to facial recognition will be positively impacted by 5G speed/bandwidth
Trend 2:	Algorithms	As algorithms improve and bandwidth expands IT will develop bigger and better applications
Trend 3:	Capitalism 5.0	IT has produced too many tone-deaf billionaires and because of this its subject to Anti-Trust and privacy regulations
SECTOR:	Basic Materials	**KEY IMPACT ZONES:**
Trend 1:	Global Trade	BMs (mined , harvested and minimally processed materials) are sourced worldwide and subject to trade tariffs
Trend 2:	Debt Markets	BM are sold extensively to the highly cyclical building and manufacturing industries.
Trend 3:	N/A	

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Overview of Trends' Impact Upon Market Sectors (3)

SECTOR:	Real Estate	KEY IMPACT ZONES:
Trend 1:	5G Wireless	Building maintenance will be transformed by 5G. HVAC, elevators and security will all be automated
Trend 2:	Debt Markets	RE and the debt markets tend to move closely in tandem
Trend 3:	N/A	

SECTOR:	Communications Services	KEY IMPACT ZONES:
Trend 1:	5G Wireless	CS companies will all eventually adopt 5G, some faster than others Cos like AT&T are more focused on content
Trend 2:	Debt Markets	Traditional communications companies are debt laden and could be vulnerable to the next downturn
Trend 3:	Algorithms	Algorithms govern almost every aspect of communications from customer service to switching and taxation

SECTOR:	Utilities	KEY IMPACT ZONES:
Trend 1:	Debt Markets	Utilities are debt laden. As interest rates rise interest expense increases and customer demand declines
Trend 2:	Algorithms	Algorithms enabled the extensive automation of utilities simultaneously creating hacking vulnerabilities
Trend 3:	n/a	

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Business Trend: 5G –The Dawn of Highspeed Wireless Communications

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5G- What is it?

5G is a communications standard, a commonly agreed upon way to transfer information.

Many Futurists believe that the degree of 5G's impact on the world will equivalent to 1 G's Impact:

> 1G enabled people to place and received phone calls no matter their location.
>
> 5G's fast transfer speeds will eliminate the need for hardwiring and enable 100s of nascent technologies.

5G is the fifth such standard since cell phones came into existence.

> 1G provided cell phone service.
>
> 2G Added the ability to text.
>
> 3G Added the ability to Access the web from mobile devices.
>
> 4G Added the ability to download movies. 4G transfers data at 20 mega bytes per second (MBPS).
>
> 5G Will provide ultra high wireless data speeds (2000 MBPS) that will enable new technologies such as:
>
> > Autonomous vehicle navigation, mobile surgery, augmented and virtual reality, the Internet of Things (IoT) and Edge Computing (the ability to distribute computation through decentralized devices rather than centralized cloud computing centers).

5G- How Does It Work?

5G is a set of communications standards that incorporate and govern thousands of individual sub technologies.

There are three new differentiating technologies that drive the improvements, new radio wave spectrum and one legacy technological standard that 5G will rely upon for a number of years.

The Three New Technologies (We will use a highway analogy to explain):

- **QAM** (Quadrature Amplitude Modulation) A digital modulation method used to transmit data.

    -Think of it as increasing the speed limit on a two lane road. Cars go faster and get to their destinations quicker.

-**Carrier Aggregation** (A partial carry-over from late 4G technologies. Carrier Aggregation enables a network operator to combine radio channels within the same frequency band or across different bands to achieve much higher data rates and lower latency than otherwise would be possible).

    -Think of it as adding additional lanes to the highway. Now the data travels faster and there is more capacity to handle additional data.

MIMO (Multiple Input Multiple Output Antennas) MIMO is a method for multiplying the capacity of a radio link using multiple transmit and receive antennas to exploit multipath propagation.

    -*Think of it as adding additional data highways you can go from point A to C without having to go through B.*

5G- How Does It Work ? (continued)

Millimeter Wave Spectrum is the portion of the radio wave spectrum between 30 gigahertz GHz and 300 GHz. The government has recently sold 5G licenses for this section of the spectrum. This Portion of the spectrum has certain limitations that current technologies cannot overcome requiring the adaptation of older technologies.

LTE Long Term Evolution is a standard that is sometimes known as 3.95G. It increases network capacity and speed using a different radio interface together with core network improvements. When 5G begins to rollout it will be in a patchwork locations all strung together with LTE standard technology.

- *Think of a person talking on their phone in a car, they drive through an area that has 5G they will avail themselves 5G features (lets say you are video conferencing), but as they exit the 5G area the Video drops out and you are left with a phone conference.*

TECHNOLOGICAL AND ECONOMIC LIMITATIONS OF 5G

Radio waves in the millimeter wave spectrum function basically on a line of sight basis (an object can block or diminish transmission). This presently limits the Use of pure 5G for mobile applications.

5G uses substantially more power to operate greatly reducing battery life.

Many experts say it will cost $300 Billion in total to gradually rollout, develop and update 5G. Companies need to pass these costs onto consumers in a fully saturated market, many of whom will not willingly absorb the additional cost without a killer app driving their decision.

5G- When Will it Arrive?

US operators' launch plans fall into two distinct categories: Fixed wireless and mobile. Fixed wireless typically services residential broadband customers with speeds in excess of 1 Gbit/s using mmWave bands. Mobile launch will use sub-6 GHz spectrum in traditional LTE or newly-allocated bands with similar performance to LTE

	Fixed wireless			Mobile		
Operator	**Launch date**	**Bands**	**Launch areas**	**Launch date**	**Bands**	**Launch areas**
AT&T	TBD	28/39 GHz	Trials: Austin, Waco, South Bend, Kalamazoo	End 2018	TBD	Dallas, Waco, Atlanta (12 cities total)
Verizon	Oct 1 2018	28 GHz	3-5 cities including Indianapolis, Sacramento, Los Angeles, and Houston.	1H2019	TBD	TBD
Sprint	N/A	N/A		1H2019	2.5 GHz	Atlanta, Chicago, Dallas, Houston, Los Angeles, Washington, New York, Phoenix, Kansas City
T-Mobile	End 2018	28/39 GHz	Trials Bellview,WA	End 2018	600 MHz	Los Angeles, New York, Las Vegas, Dallas (30 cities total)
Dish Network	N/A	N/A		2020	600 MHz	
Charter Communications	End 2018	28 GHz	Orlando, Reno, Clarksville TN, Columbus, Bakersfield and Grand Rapids			

Source: Wikipedia

The full buildout of 5G is expected to cost $30B annually and take about 7 years to complete.

5G will essentially arrive in two waves:

First is fixed site to fixed site (line of sight) applications (Small Cell to 30 homes).

The second wave is Mobile merging 5G with the existing LTE Network and finally 5G displacing LTE.

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5G- Will There Be New Entrants?

Because 5G is revolutionary, disruptive and expensive, an opportunity exists for a new participant in the delivery of these services. Large, well capitalized tech companies (Google, Facebook and Amazon) have often been mentioned as new disruptive participants. However the reality is that the communications market is already saturated, consumers are likely to resist increased fees while the network builds out and frankly the big techs have higher growth/profit opportunities to pursue.

Established companies in three sectors will likely dominate the first stage of the build out followed by the carriers:

Data Centers (hardware and network upgrades) Cisco, Dell, Hewlett Packard, IBM & Lenovo, Intel, Qualcomm, Broadcom, AMD, and Samsung

Network Transformation Providers (Cos that will help telecoms upgrade networks) Samsung Nokia, Intel, Huawei, Ericsson and Qualcomm

Modem and Intellectual Property Suppliers Qualcomm, Intel, Samsung, Hawei and Ericsson

Mobile Telecoms US: Verizon, AT&T, T-Mobile ASIA: China Mobile, SingTel Europe VodaPhone, T Mobil, Orane

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5G- Summary & Conclusion

5G will be transformative, but not immediate.

Adoption will be tempered by, technological issues, the cost of capital improvements and the perceived unwillingness of businesses and consumers to absorb the additional costs.

Adoption will come in a patchwork fashion. Higher-density urban and well-to-do suburban areas will be the first to receive 5G, but only as a fixed point-to fixed point application not mobile. Think of it as almost a super neighborhood WIFI.

Large regional and eventually national true 5G mobile networks won't come into existence for quite a while (at least 2025) as technological barriers must be overcome, $300+ Billion of capital must be raised and 400,00-600,000 towers will need to be constructed .

A driverless Uber powered by 5G will not be coming to your door tomorrow morning.

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Business Trend: Attention Investors, Clean-up in Center Aisles

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Attention Investors: Clean-Up in The Center Aisles

- Manufacturers of packaged foods, personal care items, paper goods and cleaning supplies are almost universally facing stagnant or declining revenues and range bound or declining stock prices.

- The trend is across the board impacting diverse companies ranging from:

- The largest public multinationals to small family owned businesses
- Producers of food to manufacturers of chemical cleaning products
- Famous, hundred-year-old brands to relatively unknown new entrants

The High Correlation of Revenue to Stock Price

Category / Name	Ticker	Stock Price			Revenues ($ Billion)		
		10/9/2018	10/9/2017	10/9/2016	2017	2016	2015
Packaged Foods							
Kellogg's	K	$ 68.99	$ 62.48	$ 75.60	$ 12.90	$ 13.00	$ 13.50
General Mills	GIS	$ 43.28	$ 51.44	$ 62.45	$ 15.60	$ 16.50	$ 17.60
Campbell Soup	CPB	$ 37.54	$ 46.53	$ 54.44	$ 7.80	$ 7.90	$ 8.00
McCormick & Co.	MKC	$ 135.82	$ 96.35	$ 95.75	$ 4.80	$ 4.40	$ 4.20
Post Hold.	POST	$ 95.09	$ 86.90	$ 79.90	$ 5.20	$ 5.00	$ 4.60
Barilla (private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ConAgra Brands	CAG	$ 35.57	$ 34.16	$ 36.61	$ 7.80	$ 8.60	$ 9.00
Canned Goods							
Campbell	CPB	$ 37.54	$ 46.53	$ 54.44	$ 7.80	$ 7.90	$ 8.00
Kraft Heinz	KHC	$ 56.07	$ 78.29	$ 87.44	$ 26.20	$ 26.50	$ 18.30
Con Agara	CAG	$ 35.57	$ 34.16	$ 36.61	$ 7.80	$ 8.60	$ 9.00
JM Smucker Co	SJM	$ 101.97	$ 104.38	$ 133.73	$ 7.30	$ 7.40	$ 7.80
Hormel Foods Corp	HRL	$ 40.72	$ 31.72	$ 32.57	$ 9.20	$ 9.50	$ 9.30
International Foods							
GOYA (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nestle AG (ADR)	NSRGY	$ 81.51	$ 84.97	$ 76.85	$ 90.00	$ 89.80	$ 89.00
Barilla (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MTR (Norweigian Bourse)	ORK	N/A	N/A	N/A	N/A	N/A	N/A
Petra Foods (Singapore Stock Exchange)	P34	$ 1.20	$ 1.51	$ 2.16	$ 0.38	$ 0.40	$ 0.41
Kikkoman (ADR)	KIKOY	$ 29.00	$ 15.70	$ 16.20	$ 0.40	$ 0.41	$ 0.37
Herdez (MSE)	HerDez	$ 40.70	N/A	N/A	N/A	N/A	N/A
Jumex (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
De Cecco (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Parmalat (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Grocery Ghetto

Category / Name	Ticker	Stock Price			Revenues		
		10/9/2018	10/9/2017	10/9/2016	2017	2016	2015
Snacks, Soda, Water, Candy							
Pepsi	Pep	$ 108.12	$ 110.59	$ 106.62	$ 63.50	$ 62.80	$ 63.40
Coke	KO	$ 46.39	$ 45.50	$ 41.92	$ 35.40	$ 41.80	$ 44.20
Nestle AG (ADR)	NSRGY	$ 81.51	$ 84.97	$ 76.85	$ 90.00	$ 89.80	$ 89.00
Mars (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hershey Co	HSY	$ 104.92	$ 108.73	$ 95.21	$ 7.50	$ 7.40	$ 7.40
Mondelez	MDLZ	$ 42.76	$ 42.41	$ 42.53	$ 25.80	$ 25.90	$ 29.60
Danone (ADR)	DANOY	$ 15.11	$ 16.20	$ 14.50	$ 24.60	$ 21.90	$ 22.40
Keurig/Dr Pepper	KDP	$ 22.96	N/A	N/A	$ 4.20	$ 4.30	$ 4.50
Papergoods Cleaning Products Petfood							
Proctor & Gamble	PG	$ 82.20	$ 92.40	$ 90.10	$ 65.00	$ 65.20	$ 70.70
Unilever (ADR)	UN	$ 53.87	$ 58.70	$ 45.35	$ 53.70	$ 52.70	$ 53.20
Georgia Pacific (Private Koch)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kimberly Clark	KMB	$ 114.11	$ 115.67	$ 123.12	$ 18.20	$ 18.20	$ 18.50
Newell Brands	NWL	$ 18.72	$ 43.91	$ 52.24	$ 14.70	$ 13.20	$ 5.90
Reynolds (Private)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clorox	CLX	$ 150.30	$ 129.32	$ 122.79	$ 6.10	$ 5.90	$ 5.70
Church & Dwight	CHD	$ 59.22	$ 47.54	$ 47.12	$ 3.70	$ 3.40	$ 3.40
Mars (Pedigree) Private	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nestle (Purina) - ADR	NSRGY	$ 81.51	$ 84.97	$ 76.85	$ 90.00	$ 89.80	$ 89.00
Colgate-Palmolive (Hills)	CL	$ 65.07	$ 72.81	$ 73.56	$ 15.40	$ 15.20	$ 16.00
Personal Care & Healthcare							
P&G	PG	$ 82.20	$ 92.40	$ 90.10	$ 65.00	$ 65.20	$ 70.70
Colgate Palmolive	CL	$ 65.07	$ 72.81	$ 73.56	$ 15.40	$ 15.20	$ 16.00
L'Oreal (ADR)	LRLCY	$ 48.50	$ 42.53	$ 36.74	$ 26.00	$ 24.00	$ 24.00
J&J	JNJ	$ 139.20	$ 133.60	$ 119.51	$ 76.40	$ 71.80	$ 70.40
Kimberly Clark	KMB	$ 114.11	$ 115.67	$ 123.12	$ 18.20	$ 18.20	$ 18.50
Bayer	BAYZF	$ 85.60	$ 138.40	$ 101.20	$ 35.10	$ 46.70	$ 46.00
Coty	COTY	$ 11.83	$ 17.00	$ 23.57	$ 5.30	$ 7.60	$ 4.30
Revlon	REV	$ 24.49	$ 22.95	$ 36.62	$ 2.60	$ 2.30	$ 1.90

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Why is This Happening?
Four Trends Impacting These Businesses

- Common Attributes shared by each of these companies:

- Common primary sales geography – the center aisles of grocery stores

- The declining importance of brand power in consumers' decisions

- Intense price competition arising from new sales channels; and

- Consumers shift to healthier, fresher, natural and more sustainable products.

Typical Floor Plan of a US Grocery

DAIRY

MEATS / POULTRY/ SEAFOOD

DELI/CHEESE

BAKERY

FROZEN FOODS

Prepared Foods/

Beer & Wine

CLEANUP IN THE CENTER AISLES

Packaged Foods

Baking Goods
Flour, Pasta
Cookies, Jello
Seasonings
Cereal

Kellogg's
General Mills
Campbell
McCormick
Post Hold.
Barilla
ConAgra

Canned Goods

Soups
Condiments
Vegetables
Sauces

Campbell
Kraft Heinz
Con Agra
JM Smucker
Hormel

International Foods

Italian
Hispanic
Asian, Indian

GOYA
NESTLE
Barilla
MTR
Petra Foods
Kikkoman
Herdez
Jumex
De Cecco
Parmalat

Chips Soda Water Candy

Pepsi
Coke
Nestle
Mars
Hershey
Mondelez
Danone
Keurig/Dr Pepper

Paper Goods Cleaning Products Pet food

P & G
Unilever
GA Pacific
Kimberly Clark
Newell Brands
Reynolds
Clorox
Church & Dwight
Mars
Nestle (Purina)
Hills

Personal Care / Healthcare

P&G
Colgate
Palmolive
L'Oreal
J&J
Kimberly Clarke
Bayer
Coty
Revlon

Natural Foods

"Natural" versions of Grocery Ghetto Products

Refriger-ated Products

Frozen Products

Pharmacy

FRUIT & PRODUCE

Bank

CHECKOUT LANES

INGRESS - EGRESS

SEASONAL GOODS

INGRESS - EGRESS

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Common Sales Geography

- As described in the previous floor-plan, the primary distribution point for all of the products are the center aisles of grocery stores.
- For generations these products have been designed, advertised and marketed/displayed in a way for them to stand out in their respective aisles --- think of the bright orange package of Tide detergent, the iconic red & white Campbell's soup can or the promise of a perfect cake every time by Duncan Hines…
- The successful products evolved special attributes to dominate their specific grocery store ecosystem.
- However shoppers preferences changed, they buy on line, they spend 70% of their time and money in fresh perimeter departments, they shun highly processed foods and go to Costco to buy paper and cleaning products in bulk.
- Many of their special attributes simply became irrelevant as shopper habits changed. If you are buying Tide online does a bright package matter?
- As a result there is an attempted exodus. Packaged food companies are desperately trying to escape by developing foods that can be sold in the fresh foods perimeter departments, Health and Beauty aids are going online, paper and cleaning supplies have made in roads into shopping clubs and big box retailers like Home Depot.
- Those products that are left are like wounded wildebeests on the Serengeti, being attacked by lower priced store brands and being pushed out by new invasive species like greeting cards and prepared foods.

The Declining Importance of Brand Power in Consumers' Decisions

- Call it what you will, co-packing, private labeling, etc., but brands are killing themselves. Why buy a brand for 10% more when you can buy the exact same product carrying the store label?
- In an increasingly price conscious world, brands have taken steps from reducing the amount of product sold (e.g. ice cream or coffee) and diluting or substituting ingredients in order to remain competitive and consumers have noticed .
- Combine private labeling and dilution with a decline in brand advertising and product innovation and you are making a strong case to abandon the brand and simply become a generic producer.
- Grocery stores themselves crowd out most brands by providing as much space to their own brands as national brands as the profit margins are much higher, helping them compete with Costco, Walmart and Amazon.
- Finally convenience, price and delivery have upended Brand's hold on consumers--- think of high cost Gillette razors getting pummeled by lower cost direct to consumer brands such as Dollar Shave or Harry's – not only do they cost less, they are automatically delivered to you.

Intense price competition arising from new sales channels

- Brands are under pressure, because their traditional customers, supermarkets are under pressure.
- Today in the US there are 4.15 square feet of supermarket space per person, which is 30 times higher than in 1950. Factor in warehouse clubs, internet marketers and home delivery services and the supermarket industry is under siege, losing money and are probably due for a large retrenchment like department stores.
- In the meantime supermarkets are buying time by leaning on both brand name and private label manufacturers to reduce their price so that the supermarkets can position themselves to survive.
- As previously mentioned, there is now a long line of new and old competitors from razor blades and incontinence products to pet food product manufacturers that have used the internet to bypass traditional stores and their branded products suppliers to go direct to the consumer.

Consumers shift to healthier, fresher, natural and more sustainable products

- How often do you buy canned soup or vegetables, dehydrated potatoes, salty snacks, shelf stable cheese, high fructose soft drinks, packaged cake mix, boxed cereal or frozen dinners?

- Enough said.

Stagnant and Declining Revenues Produce Declining Stock Valuations

- Analysts are focusing on revenues as the primary indicator of health for these companies.
- As a result there is a high correlation between the direction of revenues and the companies' stock prices.
- To combat these trends successful companies will need to:

- Develop products that can be sold in the perimeter departments
    - (e.g. Pepsi now sells Hummus in the dairy case)
- Somehow make their brands relevant in the online eco space
    - (e.g. Tide purchase buttons on Amazon)
- Develop Big Box sales channels
    - (e.g. Proctor and Gamble's largest outlet is Walmart)
- Purchase or develop healthy/fresh products that sell outside the center aisles
    - (e.g. Canners like Dole, Del Monte and Green Giant have expanded brands into fresh produce)

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Business Trend: Capitalism ~~1.0, 2.0, 3.0, 4.0~~ 5.0

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Authors' Note

We at Winthrop Partners are conservative capitalist, but even as such, its hard not see that Capitalism is due for an update. We believe that we are in the 9th inning of Capitalism 4.0. Monopolies and Oligopolies are increasing, large swaths of the population feel disenfranchised, income inequality is at record levels, anti-competitive moats are erected around most large corporations, and as a result, excessive unearned income or "rents" in America are skyrocketing compared to the rest of the world.

To confirm these trends one need look no further than the cost of your prescriptions and cable bills, the short-term nature of current employment, the endless restructurings and layoffs in large companies, the constant notice of corporate mergers & acquisitions, the dizzying level of regulations and licensing required to perform the most basic of tasks or the increasingly socialist-leaning of young voters.

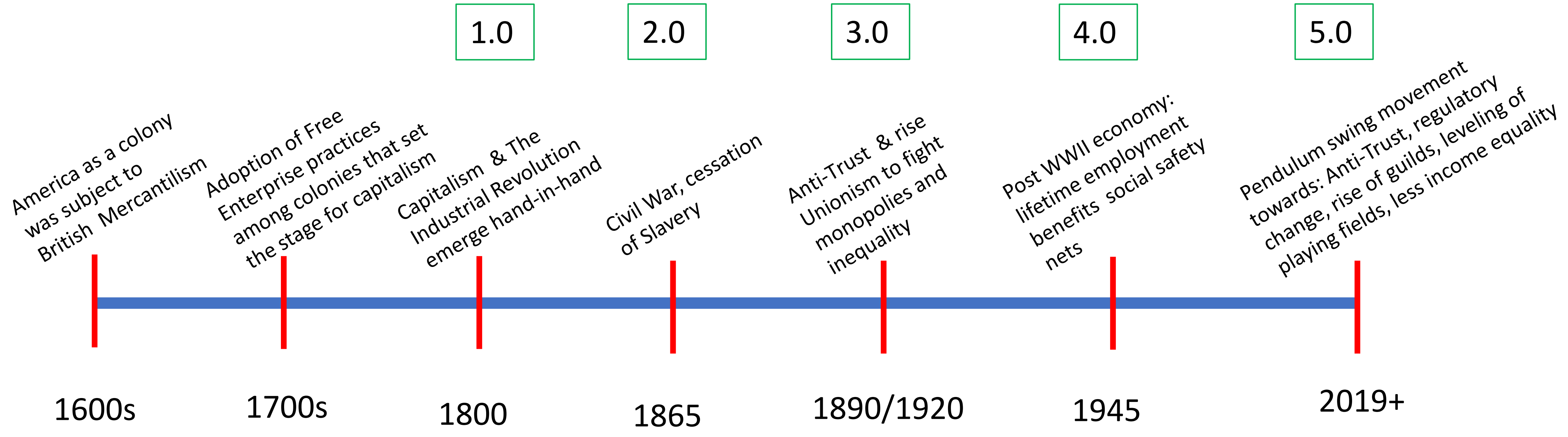
We believe that the confluence of these trends is triggering the shift of the pendulum and the dawn of Capitalism 5.0. Like most large-scale societal shifts the change is rarely the result of a single event or legislation, but rather the product of many small and seemingly unrelated changes in the economy that require the benefit of hindsight to fully view.

This report examines the present excesses or bubbles in Capitalism 4.0 and the financial, regulatory and societal trends that are emerging that will gradually reshape: work patterns, wealth creation, privacy, intra-industry competitiveness and corporations' relationships with individuals and eventually deliver Capitalism 5.0

Authors' Note (2)

This report is not politically orientated, but rather it is economically focused. However we would be foolish to understate the role of politics in economic change.

Ultimately Capitalism 5.0 will arise as the result of political debate, conflicting policy and occasionally consensus. Although America occasionally flirts with, or leans toward, alternative economic models such as communism, socialism and globalism, capitalism has shown a remarkable resiliency and ability to reset itself when the economic system gets out-of-kilter.



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Corporate Consolidation & Concentration

According to The University Of Chicago Center for Research in Security Prices , the number of Public companies in the U.S. has reduced by more half to 3,618 since the peak of 7,568 in 1999.

The World Bank Estimates that the market capitalization of the surviving entities has increased 150% over the 1980-2018 period.

Some of this consolidation and concentration is due to the 2000.COM bust and the introduction of Sarbanes Oxley which imposed expensive regulatory burdens, but most of the consolidation arose from Merger & Acquisition activity.

The National Venture Capital Association provided a good example of consolidation: In 1985 the percentage of venture capital backed companies that conducted an IPO to raise capital was 89% (11% were acquired by a public company), by 2017 this ratio flipped with 85% of venture capital backed companies being acquired and only 11% sought an IPO.

Consolidation has risen in 66% of American industries. Ten percent of the economy is comprised of industries where four firms control 2/3 of the market. A recent Economist article noted the unhealthy level of consolidation in a number of industries: 1)Credit Cards – 3 companies control 95% of the market, 2) Telecommunications – 3 companies control 78% of the market and 3) Airlines – 4 companies control 69% of the market

Industry after Industry has similarly consolidated: Autos, Technology, Home Builders, Defense, Steelmakers, Media, Entertainment, Search, Social Media, Pharmaceuticals and Banks and Financial services have all thinned the ranks.

Corporate Consolidation & Concentration (2)

Why are corporations consolidating:

Eliminate Competitors – *Reducing competition provides them freer reign to pursue self-serving interests*.

Create Synergies – *Synergies used to mean 1+1=3, a combination of cost reduction and value creation. Today's mergers are focused on cost reduction and market or vertical market dominance. Value creation is silent.*

Create Moats / Barriers to Entry - By virtue of size, the amassing of key intellectual property or the assembling or critical licenses make it as difficult as possible for another competitor to enter the market

Dominate Markets – When a handful of competitors dominate a market (telecoms, airlines, search, etc.) the participants can more easily telegraph to each other anti-competitive acts like price increases without overtly breaking laws.

Dictate pricing – When the number of suppliers are reduced, pricing leverage flows to the remaining suppliers not customers. This allows the supplier to garner excessive profits (Rents)

Become Too Big to Fail - Banks have known this for quite a while, the defense and telecoms industries are quickly learning this lesson. No matter how mismanaged or risky your behavior, taxpayers will bail you out.

Corporate Ownership Is Even More Consolidated

Just a small number of investment managers exercise practical power over US public and private companies.

Institutions own about 78% of the market value of the U.S. broad-market Russell 3000 index, and 80% of the large-cap S&P 500 index. In dollars, that is about $21.7 trillion and $18 trillion, respectively.

Just three fund managers control 81% of Index Funds --about 20% of all Public Equity (Vanguard, State Street and Black Rock) The Wall Street Journal predicts that if index funds continue to grow at present rates the Big Three will control 30% of the US stock Market.

Not only is there a concentration of ownership in the Public markets its even more concentrated in the Private Markets. In 2018 50% of the $4.3 Trillion Private Equity Market is controlled by 10 firms: Blackstone Group, Kohlberg Kravis Roberts, Carlyle Group, TPG Capital, Warburg-Pincus, Advent International, Apollo Global Management, EnCap Investments, Neuberger Berman Group and CVC Capital Partners.

Concentrated Ownership impacts managers' decisions such as creating desires to: 1) Not upset the apple cart 2) encourage continued consolidation and 3) wring additional profits from the merged industries with fewer competitors . Most importantly the Economist cites that the returns for dominant competitors "oligopolies" in highly concentrated economic sectors beat the global stock market by 484% over the last decade.

Public Sentiment

Public sentiment will be the largest driver in forming Capitalism 5.0 and can be broadly grouped into three areas:

<u>1) Job Security and Income Equality: </u> Do citizens feel they are getting a fair shake now and do they have a secure future?

Large contingencies in both the left and the right feel disenfranchised from the new economy. A 2018 Thompson Reuters poll indicated that about 65% of Americans believe that their jobs are less secure now that twenty years ago. GM's recent announcement that it was not allocating any automobile production to 3 north American plants idling 10,000 workers adds to that sentiment. In response President Trump mentioned that he would look into clawing back 2008 era benefits awarded to the auto company.

Income inequality has risen at a high rate since the 1980s. The most recent information is from 2015 showing that the lower 90% of taxpayers earn on average $34, 074, the top 10% earn on average $312,536 (or 9.17X more than the lower 90%), the top 5% earn on average $477,293 (or 14X more), the top 1% earn $1,363,977 (or 40X more) an the top .01% earn $6,747,439 (or 198X more). Since 1980 the top .01% of Americans have more than doubled there share of total earnings to 5.1% at 2015. Senator Bernie Sanders is introducing a bill that will require that companies like Walmart pay a $15.00/Hr. minimum wage or face restrictions on share buy-backs which largely benefit higher income individuals.

A 2016 study found that more than 50% of young Americans no longer support capitalism

As of 2016, 15 percent of millennials between the ages of 25 and 35 were living with their parents. That compares to 10 percent of Gen Xers when they were at that age in 2000.

Public Sentiment (2)

2) <u>Privacy and Security:</u> Are big corporations amassing and monetizing too much information and are they protecting it .

Data Privacy and Data Security. Although data privacy has been a hot topic in Europe for a number of years, the issue is just starting to come to the forefront in the U.S . as questions about Facebook, Amazon and Googles uses and potential abuses of consumer data emerge.

Americans are quickly becoming concerned that the vast amounts of data gathered about them when they use: 1) "free" search, shopping, communications and social media services, 2) cable, and banking services, 3) supermarket discount cards and 4) ancestry or DNA services. Highly personal data is being gathered, appended, parsed and sold at tremendous profit to a few and at a detriment to many.

Some data consumers use this flood of highly personal data in questionable ways such as methods to direct fake news towards receptive marks, categorize individuals (insurance) or otherwise discriminate against consumers.

With 2.5 quintillion bytes of data being created every day, and a large portion of that being mined and stored by corporations, individuals are increasingly concerned with how this data is being protected from theft and other breaches.

More recently the theft of up to 500 Million American's financial and personal data, including passport data was stolen from Marriott Hotels, prompting Senator Elizabeth Warren to comment that Executives jobs should be tied to data breaches because they have done too little to protect this information.

Public Sentiment (3)

3) Corporate Sentiment: Have corporations become too big and powerful / should they be broken up?

Do investors, regulators and consumers believe that market leading companies have become too big to fail or at least efficiently manage and regulate? And has their size and market dominance harmed consumers?

Although there has been an outsized trend of mergers and acquisitions, some pain points with this strategy are beginning to emerge. GE, Dow Dupont, Campbell's Soup and United Technologies have all been forced to break up. Large Banks and Insurance Companies have been forced to spin-off or sell hundreds of subsidiary corporations. The activities of Activist-investors, proxy-voting advisors, funds, special interest groups and in certain cases, consumers have increasingly been successful in influencing hitherto hidebound corporate boards to become more responsive to shareholders and other stakeholders.

Changes in investor sentiment are occurring. The ranks of conglomerates has thinned in recent years as investors adopted the belief that its better for managers to be focusing on a single line of business rather than a multiple businesses. These same investors are also adopting the point-of-view that excessive size can breed inefficiency and hamper the corporation's nimbleness.

What Might Happen

Over the coming years the conversion to Capitalism 5.0 will manifest itself in many ways and probably not in an organized or coherent pattern, but rather in fits and starts with plenty of contradictory actions. Below are some key activities to watch as well as some recent and potential actions in these areas.

Anti- Trust and other Regulations:
Actions:
AT&T -Time Warner Merger, The justice Department sued to prevent the merger claiming anti trust violations, but Federal Judge Leon sided with the defendants and approved the merger, a major set-back for the justice department

CVS – Aetna merger was questioned by Federal Judge Leon indicating it didn't comply with the Tunney Act provision of the Anti-Trust statutes even though the justice department signed off on the merger.

The Big 4 Banks (JPM, BA, WFC CITI) are effectively blocked from future acquisitions due to banking regulations governing the percentage of national deposits each can maintain, WFC is also prohibited from increasing in size.

Amazon- Germany's Anti-Trust Authority has launched an investigation as to whether Amazon is impeding commerce.

Potential Actions:
Tech companies like Amazon, Face Book and Google could be challenged as monopolies and subject to break up or future acquisitions could be hampered due to ani-trust concerns. The airline, pharmaceutical, financial services, communication and entertainment industries could face similar regulatory and anti-trust issues.

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What Might Happen

Break up of Mega Firms (continued) :

Potential Actions:

Going forward, factors such as pure size, ideology or outsized influence could trigger future breakups, Although Banks have dodged "too big to fail" breakup legislation so far, they continue to be susceptible. Tech companies, Drug Companies, Insurance and Healthcare Concerns are also susceptible to similar regulation particularly if they engage in anticompetitive, deceitful or illegal acts.

Market stops rewarding size in favor of nimbleness and subject matter expertise:

Actions:

GM and Ford have slimmed down and jettisoned product lines in order to become more focused and nimble players in their chosen industries and geographies. On average the big four Banks each divested more than 30 business lines in the last five years. Proctor and Gamble divested or consolidated 100 Brands as it streamlines operations. As previously stated, GE and UTC have also divested or otherwise broken-up their operations.

Potential Actions:

Gigantic firms can no longer rely on size and inertia to protect them as activist and other investors demand higher returns, the reduction of regulations chip away at their moats and disruptive competitors invade their turf. Look at Netflix simultaneously disrupting the motion picture and cable industries, Spotify, Apple and Amazon upended the music industry, and Square, PayPal/ Venmo, target Visa and MasterCard. Highly regulated industries like Healthcare, Financial Services, Transportation and Utilities all could face new and disruptive competitors.

What Might Happen

Workers gain leverage:

Actions:

Unemployment is at an all time low. The workforce is shrinking as individuals age-out, and intelligent systems and robotics aren't necessarily supplanting skilled human labor, but rather enhancing their labor.   Additionally social media and other technologies might allow workers to form guilds that allow them to leverage their skills.

Future actions:

As long as the economy remains strong, supply and demand will allow workers to exert more power in the labor market.   The continued reduction of regulations such as licenses (20% workers are now licensed vs 5% in 1950) may allow more mobility between job classes and state and federal courts chip away at the validity of non-compete agreements fewer people will be tethered to a single company.

Also as companies are forced to become more nimble and flexible job tenure will continue to erode and there is a strong possibility that workers will no longer look to employers as the repository of benefits (Healthcare, Life insurance) or savings (401K) and pensions. Instead workers may take a cue from movie actors and form industry guilds that manage and negotiate benefits, serve as de facto union halls and dictate the basic terms of employment that guild members will accept.

Conclusion

If the trends described herein continue to manifest themselves, there is the possibility that the next decade could resemble the two decades on either side of 1900, where business-owners, managers, workers, consumers and governments were forced to equitably manage a new economy brought about as a result of large technological shifts (petroleum, transportation, electricity, telephones, etc) that caused large distortions in wealth and social order.

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Business Trend: Global Trade – A House of Mirrors or Horrors

Doylestown, PA | Pittsburgh, PA | Buffalo, NY

Are Trade Wars Reshaping the Global Economy or Vice Versa

The rise of economic nationalism (putting your nation's economic goals first), the erection of trade barriers and shortening of global supply chains appear to be concurrent trends, but they are more likely causal than concurrent in nature.

Economic nationalist sentiments first arose in Britain when the British rejected the European Union initiating Brexit and quickly manifested themselves in the U.S. as Donald Trump became President. Italy and France followed suit and other major economies like Mexico and Brazil have also focused on Economic nationalism. China, of course, has always pursued this strategy.

In the UK, the British believed that their economic interests were being subordinated to those of the EU. In the U.S. the administration believed that current economic pacts, even when obeyed, benefited others at the expense of the U.S. and that most of the U.S.'s trading partners had long been abusing these pacts. Similar sentiments arose in Italy, France Mexico and Brazil.

As a result, leaders in many of these countries and China sought to erect barriers to protect native industries against foreign competition and initiate other directives including espionage to support their economies.

Multinational Business leaders who, benefited enormously from the rise of globalism in the post-war economy, have recently been forced to prune their global supply chains as they have become too expensive to administer and too prone failures caused by political disruptions like trade wars.

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Anatomy of Economic Warfare

Trade wars are generally fought by creating import tariffs (taxes) on specific goods and services from specific countries.

Sometimes the goods and services are targeted based upon allegations that the goods and services are: 1) being dumped (products sold in foreign countries for less than they are available in the originating country) or 2) produced using direct or tax subsidies by the originating state; other times the goods and services that are targeted are for 3) strategic reasons(designed for the highest impact up on the targeted country) or 4) an entire targeted country's trade and funds flows are embargoed to support political or military agendas.

Frequently the targeted country retaliates by creating strategic tariffs of their own.

Escalation frequently occurs when the originating tariff erector is faced with a retaliatory tariff and decides to up-the-ante.

Like any governmental action, trade wars always have known downsides and frequently create unintended consequences. Consumers from both countries are generally required to pay more for goods and services, capital markets suffer and established trade practices like supply chains become contorted or truncated to adjust for tariffs and restrictions.

Current Areas of Trade Friction

Presently the largest area of dispute is between China and the US where tariffs have emerged on over $250B of Chinese Goods (an additional $250B is contemplated). In addition there are other concerns regarding intellectual property protections and China's requirement that US companies partner with their Chinese counterparts before the gain access to Chinese economy.

The second largest area of trade disputes is between the US and the EU. Although the focus appears to be on steal and autos, the main areas of discord in U.S.-EU trade are: Agriculture (Bio Tech principally the use of GMOs and hormones), Information Technology (particularly individuals' privacy) and the US's use of economic sanctions to enforce foreign policy which impacts EU financial and commercial institutions.

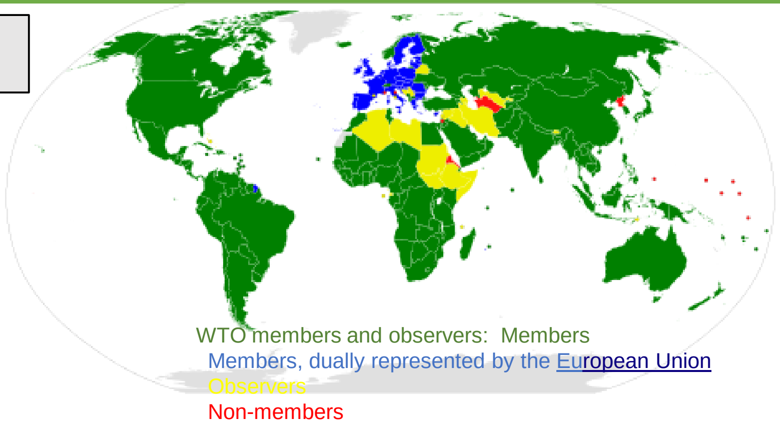
The third largest area of trade dispute is between China and the EU. To date their focus has been on the dumping of textiles and manufactured goods, and intellectual property protections. Despite the trade friction between the U.S. and E.U a consensus is emerging that the EU and US will set aside their disputes in favor of banding together to provide a concerted focus on China trade.

The fourth largest area of trade dispute was within North America, but the USMCA, although not yet ratified, appears to have resolved these disputes. With a Democratic majority in Congress there may be further requests for modification.

Global trade pacts for the last few decades have tended to be multi-lateral (e.g. NAFTA, Trans-Pacific Trade Agreement), however the current US Administration and certain other Governments are now favoring bi-lateral agreements because the negotiations are simpler and the ability adjust them is generally easier.

Largest Trade Organizations and Agreements

World Trade Organization



Creates the agreements, enforcement mechanisms and courts to adjudicate disputes. Japan, US and EU are likely to band together to change WTO rules on subsidies and State Owned Enterprises that China has exploited to better compete.

The European Union and Japan free trade Agreement (2018)

#1 Creates the world's largest open economic area - 30% of world's trade

The EU and Japan hope to involve the US in order to address China

USMCA (Awaiting Ratification)

#2 Successor to NAFTA (Canada, Mexico, US)

Governs $12T of GDP

Trans Pacific Partnership (defunct)

Comprehensive and Progressive Agreement or Trans-Pacific Partnership

The US withdrew its support from TPP causing the agreement to fail

#3 The Remaining 11 countries (ex-USA) (13% Global Trade-$13.5T) created the third largest free trade area

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Supply chains in the Era of Trade Conflict

Over the last three decades supply chains have grown in length and complexity as trade restrictions ebbed and international corporations searched for the lowest cost and most efficient sources of production. A good barometer of the growth in supply chains is the expansion of container ships. In 1970 virtually no goods were shipped via containers, today $12 Trillion of goods annually are shipped by containers.

Not only are supply chains long, they can be complex. For instance various parts of a car travel across the Mexican, US and Canadian borders an average of eight times during assembly and each of the countries are adding components that may be imported by non-USMCA/NAFTA countries.

Four trade related factors are presently impacting the scale of supply chains, nationalism, tariffs, intellectual property protection concerns and the declining opportunities available for companies to arbitrage labor costs in less-developed-countries.

Today the trend is toward onshoring (returning to domestic production) and producing goods closer to their consumption. In addition to the above four factors, shipping costs, weather, automation and timing are shortening supply chains.

Tariffs are also having unintended consequences on supply chains. BMW of Germany has centered the production of SUVs in the U.S. and the Chinese import thousands of these SUVs, but when China retaliated against US sanctions by establishing punitive tariffs on U.S. made vehicles it was a German company that bore the brunt of the action.

What is Next

One School of thought is that once the U.S. gets USMCA ratified, it will quickly pivot and focus on the U.S. – EU trade disputes.

This school also believes the EU needs the leverage of a U.S. partnership in order to effectively negotiate with China, so the EU might be more inclined to capitulate to certain U.S. demands. The EU is also very nervous about tariffs on cars, the production of which is the lifeblood of its most prosperous state, Germany.

The US, unlike the EU, is also concerned with other issues including: Chinese theft of intellectual property, Chinese demands that US companies partner with Chinese State Owned Entities when they do business in China, and countering the growing Chinese economic and military influence in the South China sea and beyond. Undoubtedly China will seek to capitalize on these divisions as it seeks to obtain results that favor its own best interests.

Having the above scenario playout is like winning the trifecta at the race track. The Democratically controlled Congress could derail USMCA, The EU and the U.S. might not be able to come together or stay together when negotiating with China and China has a wide array of options available to it from additional sanctions to inciting regional skirmishes with it or its South Korean proxy as it pursues its economic development.

What's Next (2)?

On the other hand, China with it many ethnicities and languages is not a homogenous culture and the Communist state has to walk a fine line to assure the Communist party's control. A deep recession caused by a major trade war could jeopardize the role of the Communist Party.

The most likely outcome in all of these disputes will be some form of compromise with those who have leverage getting a slightly better deal, but the other side cannot completely capitulate or they will face domestic consequences.

Another likely outcome will be a reduced reliance on global supply chains As these chains become more expensive to administer, more difficult to govern and more prone to political disruption, business leaders will seek safer, more reliable sources of supply which will require shorter chains with increased redundancies.

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Business Trend: Debt Markets - The Canary in the Coal Mine

Doylestown, PA | Pittsburgh, PA | Buffalo, NY

Debt Markets: The Canary in the Coal Mine

- Many Investors and Economists look to the debt markets for early indications of economic trouble.
- On the surface the waters look calm, but below the surface, risks are building.
- The interest spread between Corporate debt and U.S. Treasury debt is small indicating investors are taking higher risk without commensurate payment. This happened before in the late 1990s and 2007.
- Covenants in the leveraged loan markets have loosened. Another sign of high risk-taking.
- 40% ($3 Trillion) of US corporate bonds are currently rated BBB– a stone's throw from junk bond status. This is the highest percentage (and amount) of on-the-cusp bonds ever recorded.
- Increasingly creditors are restricting credit availability in riskiest of sectors (the 2008 crisis started in the subprime sector but the contagion quickly spread to virtually all sectors)
- Interest rates are rising which will: make all floating debt more expensive to service, prevent some companies from refinancing and tip marginal companies into junk status.
- Over the past few months the issuance of investment grade debt has dropped by 35% and Investors have been aggressively selling their debt instruments.

Debt Markets: Risks, Concerns & Potential Outcomes

Risk	Concern	Potential Outcomes
The overall level of risk taking in the debt markets is very high.	High levels of risk create instability and volatility particularly when investors begin to shun high-risk debt sectors. Frequently the contraction contagion spreads into all sectors.	The worst case is that a series of defaults could trigger a domino default scenario similar to 2007. A lesser outcome could be the exacerbation of contractions of debt availability.
40% of all Corporate Bonds are rated BBB.	Too Many companies are too close to the junk line and if a recession hits many will be plunged into junk status and their debt cost couuld increase by 50% or 250 BP or more causing bankruptcies .	In a good economy 10% of BBB- bonds annually slip into junk status, if the economy falters its not hard to imagine 25% of these companies or \$0.75 Trillion of debt could be downgraded. With downgrades come increased borrowing costs and the inability to roll over debt a frquesnt precurser to bankruptcy.
Contractions of Debt Availability are occuring in some risky sectors like leveraged lending.	Debt availability contractions ususally begin at the riskiest corners of the market, but the contagion then impacts the entire market.	The lack of liquidty (banks unwilling to lend/ investors unwilling to underwrite bonds)is what bankrupts companies and throws economies into recessions .
Interest Rates are Increasing	The Fed has agressively raised interst rates as of late and has strongly hinted that they will continue to increase short term rates. The higher rates negatively impact all of these risks and increases the probability that all of these risks occur.	If the Fed tightens rates beyond what is required to keep inflation in check it will likely trigger a recession, the severity of the recession will be contingent upon how the other listed risks react.

Feedback Loop: One risk impacts all others

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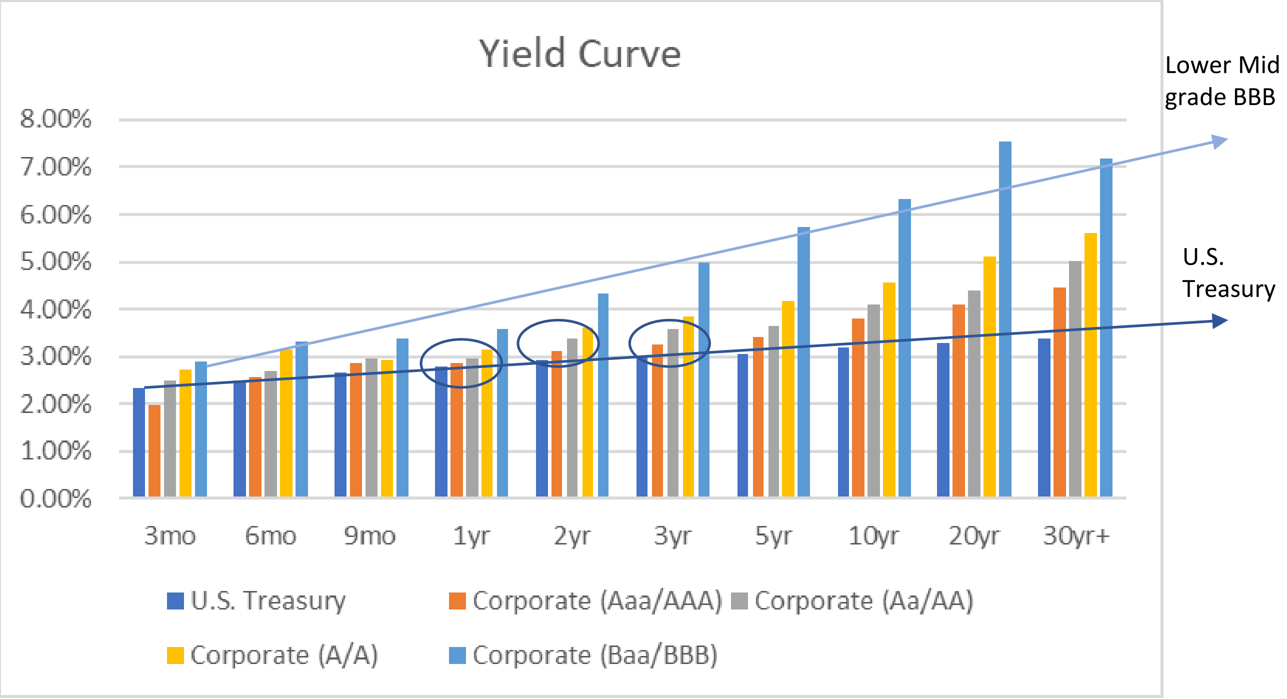
Debt Markets: Interest Rates are Rising and are Expected to Continue to Rise

The benchmark 10-Year Treasury Rate began to increase in late 2017 and has continued to increase.

Fed Watchers expect one more 0.25% hike before year end and approximately three more times in 2019 in 0.25% increments.

Debt Markets: Interest Rates are Rising and are Expected to Continue to Rise



Although the yield curve is positive for Treasuries and all four grades of corporate bonds, the curve is most pronounced in the BBB sector where investors are demanding more compensation for taking long term risks.

The market isn't demanding much of a risk premium between Treasuries and AAA, AA and A corporate bonds (see 1, 3 and 5 years)

YIELD CURVE	3mo	6mo	9mo	1yr	2yr	3yr	5yr	10yr	20yr	30yr+
U.S. Treasury	2.34%	2.51%	2.67%	2.78%	2.93%	2.98%	3.04%	3.18%	3.28%	3.38%
Corporate (Aaa/AAA)	1.98%	2.58%	2.85%	2.85%	3.13%	3.26%	3.42%	3.82%	4.09%	4.46%
Corporate (Aa/AA)	2.51%	2.69%	2.96%	2.96%	3.39%	3.58%	3.64%	4.10%	4.39%	5.01%
Corporate (A/A)	2.73%	3.14%	2.93%	3.14%	3.61%	3.85%	4.17%	4.55%	5.11%	5.62%
Corporate (Baa/BBB)	2.89%	3.31%	3.38%	3.59%	4.33%	5.00%	5.75%	6.34%	7.54%	7.17%

The outlier in the investment grade bond market are the BBB issues. Longer term BBBs are yielding between 1.5% and 2.5% higher as investors are worried about the prospects of BBBs

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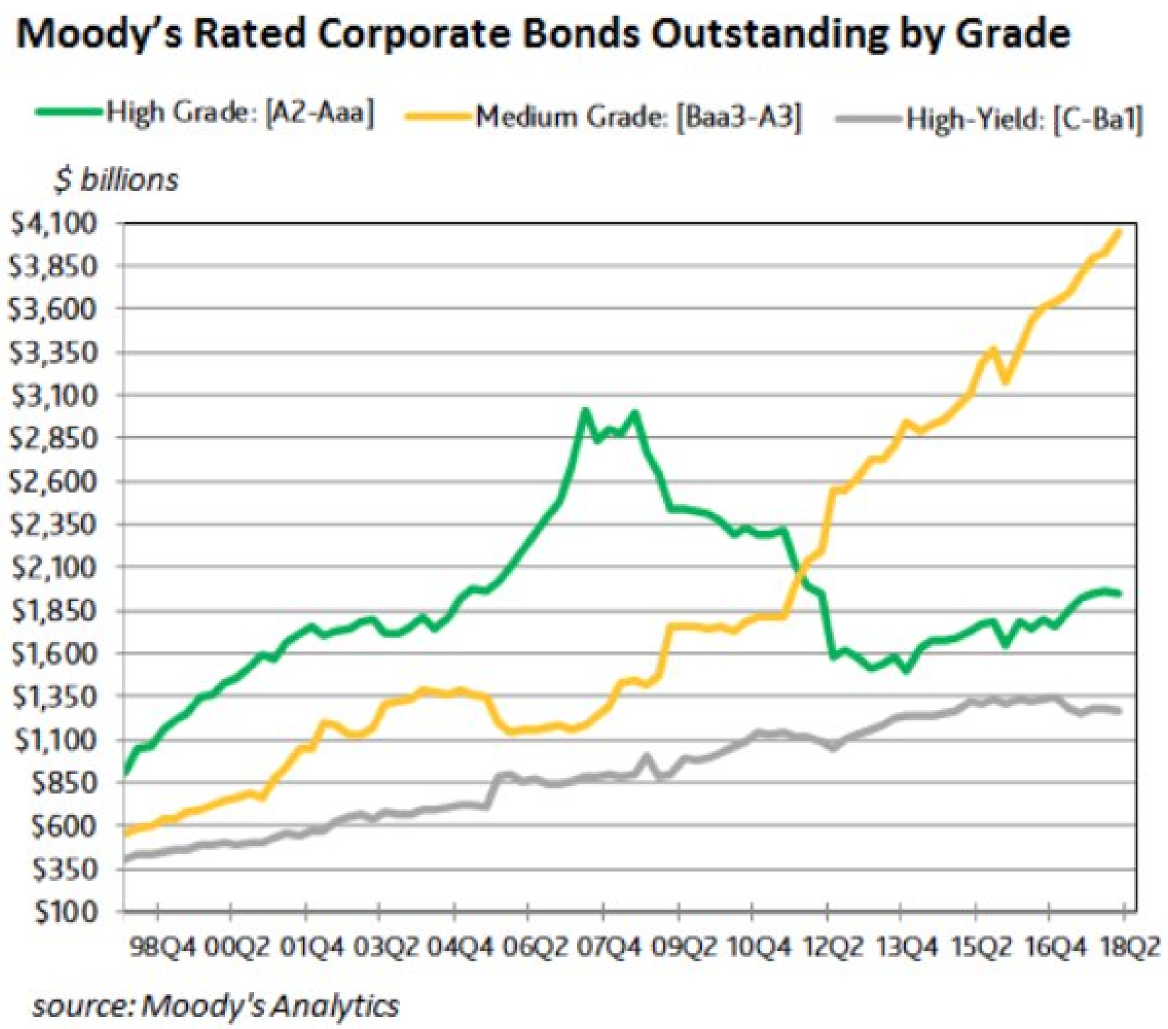
Debt Markets: "Medium Grade" Issuances -Just Above Junk- Dominates Bond Outstandings



With the absolute cost of debt so low, Corporate Chief Financial Officers ("CFOs") are using bonds and leveraged loans as the capital funding source of choice. In addition to using debt for traditional purchases like asset acquisitions, CFOs have increasingly used debt to fund equity buy- backs to support stock prices.

Going forward the combination of rising interest rates and increased leverage ratios will put pressure on some companies to limit buy back programs and for others it may push the credit ratings into junk territory. In both instances stock prices are likely to decline.

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Debt Markets: As the BBBs Go, So Do We

Broad Categories	Long Term Ratings Agency Scale			Refined Categories	Bonds In Categories
	Moody's	S&P	Fitch		
Investment Grade Debt	Aaa	AAA	AAA	Prime	$2.00 Trillion Billion High Grade A2-Aaa / A-AAA
	Aa1	AA+	AA+	High grade	
	Aa2	AA	AA		
	Aa3	AA-	AA-		
	A1	A+	A+	Upper medium grade	
	A2	A	A		
	A3	A-	A-		$4.0 Trillion Medium Grade Baa3-A3 / BBB-A-
	Baa1	BBB+	BBB+	Lower medium grade	
	Baa2	BBB	BBB		
	Baa3	BBB-	BBB-		
Below Investment Grade Debt AKA “Junk” or “High Yeild”	Ba1	BB+	BB+	Non-investment grade speculative	$1.34 Trillion Non Investment Grade C-BA1/BB+-D
	Ba2	BB	BB		
	Ba3	BB-	BB-		
	B1	B+	B+	Highly speculative	
	B2	B	B		
	B3	B-	B-		
	Caa1	CCC+	CCC	Substantial risk	
	Caa2	CCC		Extremely speculative	
About to Default or In Default	Caa3	CCC-		Default imminent with little prospect for recovery	
	Ca	CC			
		C			
	C	D	DDD	In default	
	/		DD		
	/		D		

40% of the Debt Market carries a BBB rating and much of it at the lower end of the scale.

How the issuers of these securities perform over the coming months and years may determine if the economy continues to chug along or derails into a recession

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Debt Markets: So, Which Canaries to Watch?

If the debt markets are truly the canaries in the coalmine and their risks are the harbingers of recession, which canaries should we watch?

#1 Fallen Angels, those whose debt was previously rated investment grade, but who were subsequently downgraded to junk status. With 40% of the Corporate debt market on the BBB/BB cusp any major uptick in downgrades and/or defaults has the ability to act as a contagion in the broader debt markets.

#2 The Fed Funds Rate (the rate the Fed changes in an effort to influence all other rates). Traditionally the Fed begins to raise this a little to late in the game, when markets are already overheated and inflation has started to climb and unfortunately they tend to keep raising rates while they wait for the threat of inflation to pass and inadvertently plunge the economy into recession.

#3 Watch how debt investors act in the high risk corners of the market like junk bonds, leveraged loans, subprime loans and CDOs (yes they are back). Do they continue to invest, curtail their new investments, or do they withdraw their funds.

The debt markets continue to look placid at least on the surface, but the level of risk is certainly rising.

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Business Trend - The Rise In Algorithms: What Are They, and Are They Correct?

Doylestown, PA | Pittsburgh, PA | Buffalo, NY

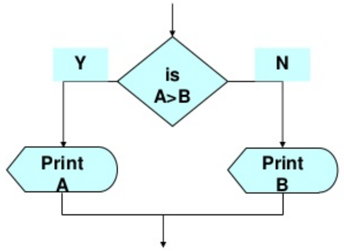
ALGORITHMS: What Are They?

EXAMPLE OF A SIMPLE ALGORITHM

IF–THEN–ELSE STRUCTURE

- The algorithm for the flowchart is as follows:

If A>B then
print A
else
print B
endif



DICTIONARY.COM DEFINITION al·go·rithm/ˈalɡəˌriTHəm/*noun.* *A* process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

An algorithm is a formula that allows a computer to calculate an outcome or series of outcomes based upon the data that is input. You interact knowingly or unknowingly with algorithms every day.

Examples of Common Algorithms:
-Automated Phone Attendant
-Automated Help desks at Utilities
-Most Automated Surveys
-Sandwich Ordering Kiosks
-Telephone banking

Examples of Hidden Algorithms That Iimpact You Everyday:
-Voice or biometric recognition systems that provide access to phones and computers
-Face Recognition Systems used by the government to scan for terrorists
-License plate scanners used by police to scan for criminals and scofflaws
-Credit scores used to approve or deny credit
-Customer Life Time Value Scores that determine how you are treated by merchants

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ALGORITHMS: Why and How Are They Being Used?

An algorithm is a series of business rules applied to databases that allow the user to quickly and efficiently automate research tasks.

The research tasks that can be completed by an algorithm in a split-second can take a human a day to calculate.

Algorithms are being used to exploit the 2.5 quintillion bytes of data created each day (2.5 quintillion pennies would, if laid out flat, cover the Earth five times).

Use Example One: You are at the airport and your plane gets cancelled. Do you ever wonder why it takes five minutes for customer service to answer your airline rebooking request, but the young lady right beside you got right through and was immediately rebooked. Furthermore she was upgraded. When you finally get through they claim to be out of seats but for a $300 charge they will get you on the midnight flight. What happened? The airline using an algorithm identified your phone number, calculated your consumer lifetime value and treated you accordingly.

Use Example Two: You are a busy person, in fact you are so busy you rack-up 15 parking tickets a week. You'll pay them soon! On the way home a police car passes you the opposite way, all of a sudden the blue lights are flashing and the friendly officer escorts you to the back of the squad car. Using a side-scan license plate reader the police are searching for scofflaws, your plate is scanned, the algorithm determines that you are a high value target and now you must pay the piper + penalties.

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ALGORITHMS: Are Not Oracles, They Are Not Infallible

There are three weak links in the algorithm driven economy: 1) The accuracy of the underlying database, 2) Hidden biases or undetected coding errors in the algorithm and 3) Partially developed data collection technologies.

- DataBase Corruption: A small corruption in a database may cause you to be erroneously identified as a serial merchandise returner and your Consumer Lifetime Value Score plummets and now you no longer receive discount coupons.

- Early Stage Collection Devices. Technologies such as high-definition cameras positioned at the proper angle to collect biometric data are not presently mission-ready causing a number of false indications

- Incomplete Databases: Your facial biometric data is absolutely unique but it's similar to millions of individuals, however the database only has 50 examples to compare your face to so it tags you as a potential terrorist at the airport. The considerate TSA agent then invites you to a strip search and interrogation room…

- Built in Biases: The coder of a database uses a well meaning, but incorrect bias that says men are have a lower purchasing score than women shoppers in certain boutiques and, by-the-way, if you are over 50 you will likely not be a repeat customer. All of a sudden you went from being invited to all of their receptions and special events to being treated as a persona non-grata.

ALGORITHMS: Proceed With Caution

The automation of so many decisions that impact so many facets of our life has great potential for Governments and Corporations but comes with a high degree of peril for individuals.

Since the formulas embedded in algorithms are considered secret it's not easy to discern inaccurate decisions, particularly when a lower level employee is interfacing with the public. The employee will stick with the algorithm's decision "because its right" and because they have absolutely no idea how it works or how to fix it.

With all the data created everyday it's virtually impossible to determine if an incorrect database or corrupt data was used in the calculation impacting you.

Undoubtedly increased claims of racial, sexual and economic bias, erroneous data bases and other issues that result in denials of service or discriminatory treatment will wend their way through the courts.

Court decisions may ultimately temper the use of these first-generation algorithms, but improved design, scrutiny of illegal discriminatory practices, better databases and most likely the ability of customer facing employees to judge the results of the algorithm and perhaps override it's decision will enable the second generation of these algorithms. Just look at IBM's Watson (an example of Artificial Intelligence not an algorithm) probability-based answers. It provides both an answer and a probability score that the answer is correct.

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