

Note: The following is a redacted version of the original report published May 27, 2020 [24 pgs].

Measuring the Reopening of America

The GS US Reopening Scale: Steady progress though Scale remains at 1 (Week of May 27)

GS US Reopening Scale

Week of 5/27

5/20
reading: 1



New this week: As accelerating Stay at Home categories partially offset improving Return to Normal categories to keep the Scale at 1, we look at the surprising rebound in the housing market, and attempt to use this data to understand what the market is pricing in for reopening.

Following our first three weeks in the series, we continue to monitor the reopening of America, using a wide range of data across “Stay at Home”

(food delivery, eCommerce, streaming media, grocery sales, etc.) to “Back to Normal” (commuting, box office, travel, etc.) and business activity (freight, housing, equipment sales, etc.) categories as a supplement to economic measures. We have added a few new data series this week and will continue to expand and refine the analysis as more data becomes available and the profile of reopening evolves.

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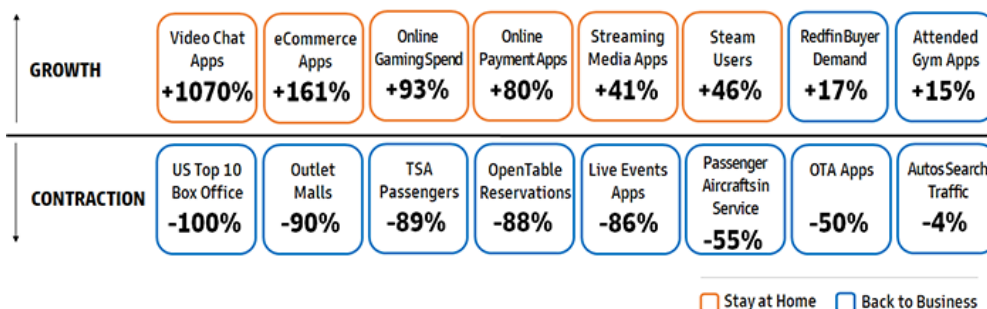
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Exhibit 1: Reopening at a glance: Back-to-business segments still deep in contraction, stay at home growing strong

% change yoy for week ending May 24



This exhibit summarizes data from sources listed in Exhibits 7, 8 and 12.

Source: Goldman Sachs Global Investment Research

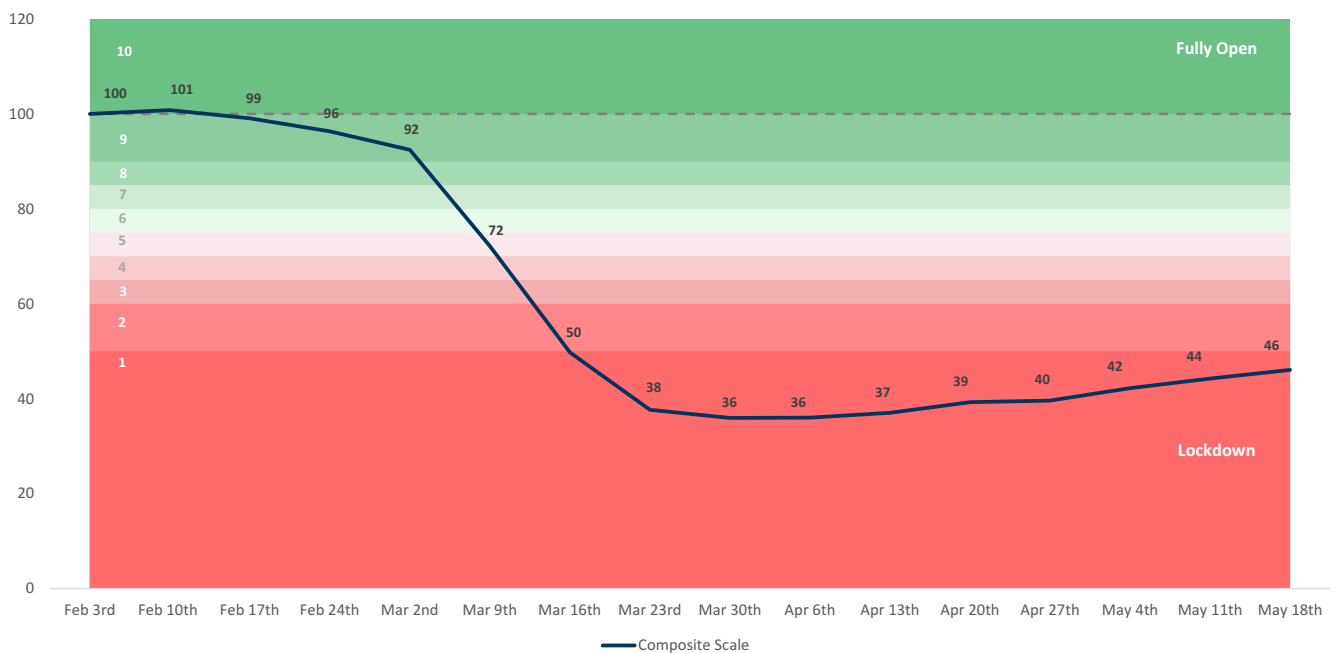
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The GS US Reopening Scale, which attempts to quantify where the balance of the scale sits between “Stay at Home”, the state we still largely find ourselves in, and “Back to Normal”, remains at “1” through the week of 5/27 as we have not seen ample aggregate reversal in trends to move the scale **though there has been significant movement in the internal metrics, most notably an acceleration in eCommerce, streaming media, and online payments partially offsetting improvement in commuting, retail, and dining measures**. Reflecting that, the Composite Score that the Reopening Scale is based on (Exhibit 2) improved modestly for the sixth straight week to 46 (vs. 44 and 42 in the prior two weeks, respectively).

To determine the position of the scale (1-10) we calculate growth or decline in each category relative to a pre-Crisis baseline (week of Feb 3rd), and equal-weight each category into our Composite Scale (Exhibit 14). From there, we assign a Reopening score reflecting these quantitative inputs (Exhibit 13). As progress toward reopening begins, we expect that will show up in the Reopening Scale moving higher.

Exhibit 2: Our Composite Scale shows a modest rebound in recent weeks, though we remain below 50

Date on x-axis represents first day of week measured



This exhibit summarizes data from sources listed in Exhibits 7, 8 and 12.

Source: Goldman Sachs Global Investment Research

Key Findings

Our read across these data sources continues to describe a landscape we’re all very familiar with: lots of eCommerce deliveries, streaming media, and video chats taking the place of concerts, travel, and time at the office. While that picture remains very one

sided in the data ([Exhibit 4](#)), with a larger number of cities and states beginning to look for ways to reopen, we expect to see the scale shifting higher over time, showing less “Stay at Home” activity and more signs of “Back to Normal”.

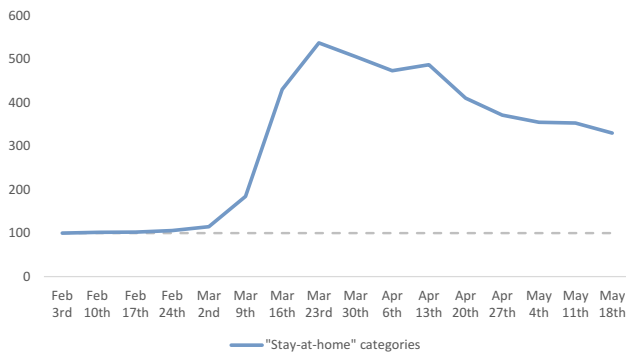
This week, we also examine the Homebuilding sector and how quickly many components within housing recovered from initial declines due to stay-at-home orders and tightening lending standards. We also attempt to use this data to answer one of the most frequent questions we’ve gotten: “What is the market pricing in for reopening?” ([Exhibit 6](#)).

Highlights

- **Lodging and hotel businesses continued to recover from the bottom, albeit focused on drive-to leisure markets**, as hotels reported solid trends from Daytona Beach, FL to Lake of the Ozarks, MO to Huntington Beach, CA. Similarly, regional casinos that have reopened have been seeing strong pent-up demand as lines have formed in markets spanning Arizona, Louisiana and Mississippi. In each instance, booking windows have noticeably shortened moving from several weeks to within the day (walk-ins) in some cases. In Myrtle Beach, South Carolina, weekend occupancy reached 72.4% for the week ending 16 May, according to STR while hotels in the Florida Panhandle achieved 70.2% occupancy, benefiting from a ban on short term rentals.
- **eCommerce measures are accelerating despite modest improvements in retail gauges** amid widespread reopening of retail options. 5 of the 6 metrics we use to measure eCommerce accelerated materially over last week, continuing a trend we have seen for most of May and defying expectations for moderation as traditional retail options began reopening at the beginning of the month. Similarly, streaming media downloads (Netflix, Disney +, etc.) accelerated across all four measures on a week over week basis.
- **Some COVID-19 related wireless network anomalies have returned to pre-Covid levels, according to Verizon.** For example, calls and texts are returning to normal levels and mobility has increased significantly over the past few weeks. According to Verizon’s handoff metrics (the times when a data session moves from one cell site to another as users walk or drive around), 44 states have had increases in mobility over the last two weeks as of May 21st and 36% of states have surpassed their pre-COVID mobility levels. However, while calls and texts are returning to normal levels, last week’s report shows that gaming (up 82% over pre-COVID levels), VPN connections (up 72% over pre-COVID levels) and use of collaboration tools (remaining flat at 10X pre-COVID levels) are still highly elevated, indicating that while restrictions have been lifted to some degree in every state, working and schooling from home as well as gaming have not materially subsided.

Exhibit 3: Stay Home categories remain relatively stable at elevated levels

Date on x-axis represents first day of week measured

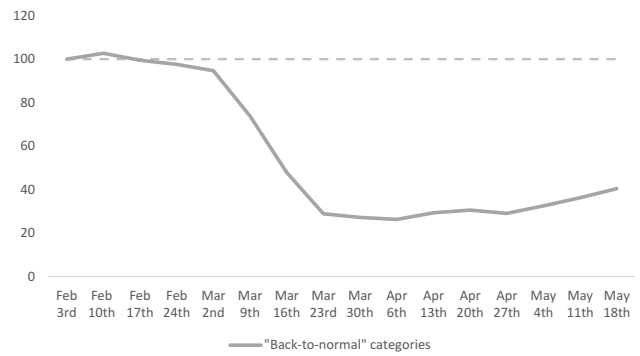


This exhibit summarizes data from sources listed in Exhibits 7, 8 and 12.

Source: Goldman Sachs Global Investment Research

Exhibit 4: Back to Normal categories on average down 60% from February levels, but up 14pts from trough

Date on x-axis represents first day of week measured



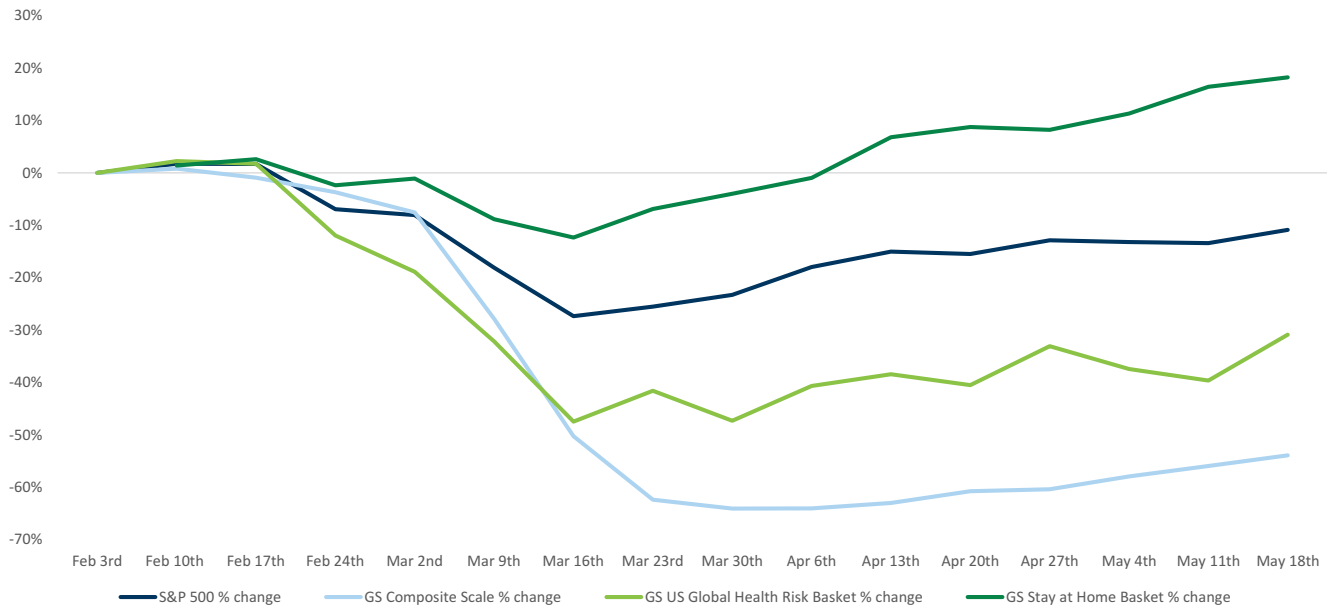
This exhibit summarizes data from sources listed in Exhibits 7, 8 and 12.

Source: Goldman Sachs Global Investment Research

Gauging market sentiment relative to consumer behavior and the Reopening Scale

In an attempt to answer one of the most frequently asked questions we receive, “What is the market pricing in for the reopening?,” we overlay performance in the S&P 500, our Composite Scale reflecting changes in consumer behavior, and two GS equity baskets (US Stay at Home basket and US Global Health Risk basket). Intuitively, the US Stay at Home basket (which includes stocks like Netflix, Zoom, Peloton, Amazon, Shopify, and Activision) is outperforming the S&P 500 and the US Global Health Risk basket (which includes stocks like Royal Caribbean, Expedia, Delta Airlines, Nordstrom, and Darden Restaurants) is underperforming the S&P 500. Between the weeks of February 3rd and May 18th, the US Stay at Home Basket, S&P 500, and US Global Health Risk Basket are +18%, -11%, and -31%, respectively, relative to trough performance of -12%, -27%, and -47% from the same starting period through March 16th. Notably, both Stay at Home stocks and Global Health Risk stocks continue to recover relative to mid-March troughs, and the GS US Stay at Home basket reached an all-time weekly high this past week. Each of these indicators is outpacing the performance of our GS Composite Scale, which troughed at -64% and currently sits down -54% vs. February 3rd (Exhibit 5).

Exhibit 5: S&P 500, GS US Global Health Risk Basket, and GS US Stay at Home Basket performance relative to GS Composite Scale
 % change relative to the week of Feb 3rd

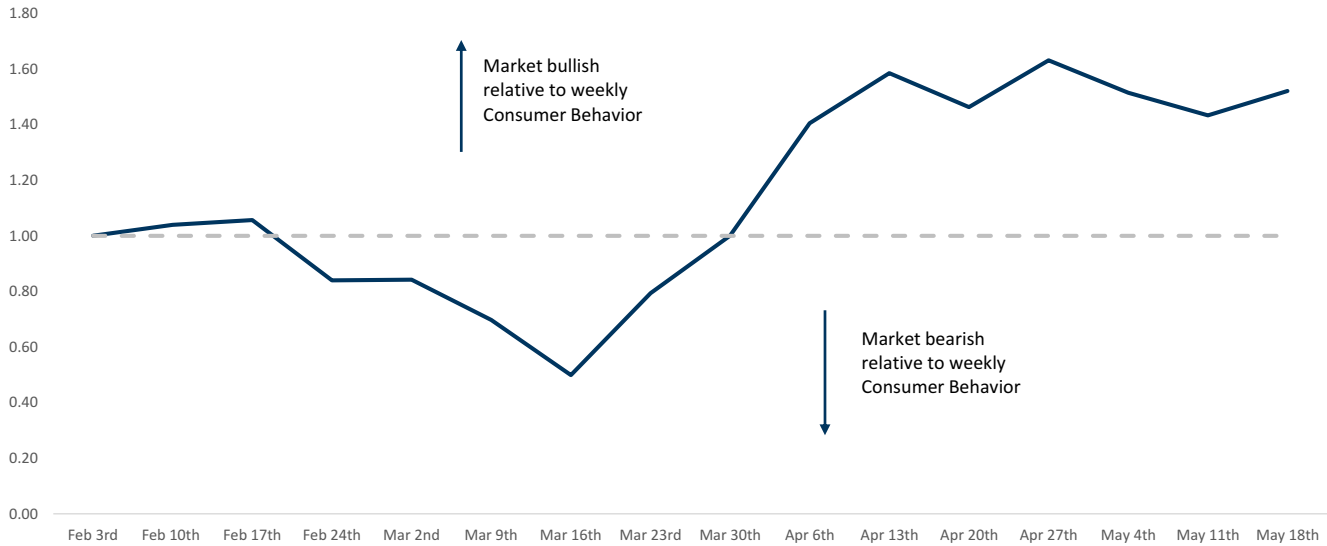


Source: FactSet, Goldman Sachs Global Investment Research

However, we believe that merely looking at the relative performance of our Composite Scale vs. the S&P 500 or any one of the above baskets on a percentage basis is an imperfect science, as the broader market not only contains business exposure beyond the scope of our analysis and contemplates changes in fiscal/monetary policy, but also prices in future expectations for recovery in consumer behavior and business activity broadly, each of which are not contemplated in our real-time Composite Scale. As such, we’ve indexed changes in the S&P 500 to changes in our GS Composite Scale, with the adjusted S&P index matching our GS Composite Scale the week of Feb 3 and at the trough of our Composite Scale on Mar 30 (Exhibit 6).

What the illustrative exercise seems to indicate is that beginning in mid-February through late March, the market was more negatively positioned relative to the immediately available data on consumer behavior, which we expect mirrors some of the more extreme negative forward scenarios laid out by some initial COVID-19 models, faster growth in cases relative to expert expectations, and market liquidity issues. However, beginning in early April and continuing through late May, the recovery in the S&P 500 has significantly outpaced the recovery in our Composite Scale, which we believe reflects more constructive market sentiment on the pace of consumer behavior returning to normal as States begin to open up, as well as the well documented fiscal response.

Exhibit 6: Adjusted S&P 500 performance relative to Composite Scale performance, assuming parity on Feb 3 and trough in weekly Composite Scale (Mar 30)



Source: Goldman Sachs Global Investment Research

Weekly Trends

Stay Home

While it is no surprise that services like Netflix, Zoom and Amazon are in high demand during a time when many states are implementing shelter-in-home policies, we continue to collect and track data across a number of sources and verticals to understand the extent to which different categories are being impacted.

eCommerce continues lead the strong growth in stay-at-home categories, with app downloads accelerating to +161% y/y (compared to +129% and +117% in the prior weeks). Similarly, online streaming media app downloads are re-accelerating in the most recent week, recording +41% y/y. On the other hand, food delivery app download growth has slowed, decelerating from +64% in the week of April 13 to +18% y/y in the past week. In retail, \$ spent/store growth has decelerated for almost all the products we track in our stay-at-home category, including household cleaning compounds and alcohol.

Exhibit 7: “Stay at Home” metrics surging reflect demand for these categories during lockdowns and sheltering in place

Feb 9 - Mar 15 excluded for presentation purposes; see prior reports for data

Basket	Sector	Company/App	Metric	y/y % change, unless otherwise noted												Source
				Feb 3 - Feb 9	Mar 16 - Mar 22	Mar 23 - Mar 29	Mar 30 - Apr 5	Apr 6 - Apr 12	Apr 13 - Apr 19	Apr 20 - Apr 26	Apr 27 - May 3	May 4 - May 10	May 11 - May 17	May 18 - May 24		
Stay at Home	eCommerce		US App Downloads	0%	25%	34%	67%	79%	124%	114%	113%	117%	129%	161%	Sensor Tower	
			US App Downloads	33%	298%	350%	472%	455%	317%	209%	133%	119%	84%	68%		
	Groceries	Flour Household cleaning compounds Alcohol Staples Food	\$/store		-2%	247%	143%	142%	125%	42%	141%	114%	99%	89%	79%	Catalina
					4%	158%	92%	81%	70%	62%	87%	54%	52%	49%	46%	
					3%	74%	30%	42%	45%	17%	40%	36%	44%	35%	29%	
					0%	79%	19%	22%	28%	1%	28%	15%	16%	14%	14%	
					1%	114%	38%	40%	47%	9%	51%	32%	31%	26%	25%	
	Online Media		US App Downloads (m/m change)	-46%	103%	74%	65%	32%	-35%	-42%	-35%	-26%	-23%	-10%	Sensor Tower	
			US App Downloads	1%	34%	40%	25%	25%	31%	32%	27%	17%	33%	41%		
	News TV	CNN Fox News Channel MSNBC	Ratings		-5%	204%	285%	250%	207%	137%	135%	97%	84%	110%	Nielsen	
					46%	118%	100%	120%	88%	68%	60%	44%	27%	41%		
	Online Gaming	Twitch Streams Steam	Total Hours Watched		11%	29%			102%						Sully Gnome Steam website Sensor Tower	
					9%	38%	48%	55%	62%	53%	54%	50%	46%	47%		46%
					24%	57%	62%	50%	39%	30%	35%	33%	25%	28%		16%
	Food Delivery At-home Fitness Video Chat Apps Online Payment Apps		Consumer Spend			63%	51%	95%	102%	111%	70%	96%	81%	93%	Facteus	
					-27%	15%	45%	32%	32%	94%	48%	38%	39%	28%		
					-1%	605%	546%	590%	374%	293%	281%	289%	231%	177%		177%
			US App Downloads		-12%	1333%	2074%	1768%	1765%	1962%	1485%	1277%	1234%	1253%	1070%	Sensor Tower
				16%	27%	45%	38%	42%	92%	56%	57%	62%	58%	80%		

Source: Sources in exhibit, compiled by Goldman Sachs Global Investment Research

Stay home category updates

- SuperData published its April spending on digital games on May 22. April global game spending hit a new monthly record at \$10.5 bn. This is up from \$10.0 bn in March (a prior record) and up 17% y/y (April 2019: \$8.9 bn). The y/y growth was across all platforms including mobile (+14%), PC (+12%), and console (+42%). According to SuperData, lockdowns caused players to return to and spend on long-running online titles. For instance, League of Legends revenue hit the highest level for the game since February 2017 with record player numbers. Similarly, GTA V saw a record monthly spending on in-game content.
- 90% of eligible T-Mobile stores have now re-opened. At the peak of the COVID-19 crisis in mid-March, T-Mobile had closed 80% of its stores. Since then, management noted that 90% of stores that they expect to remain in operation following the merger have reopened and are operating on full schedules (typically 10am-8pm). The primary reason that T-Mobile has returned these stores to normal operations is because it enables traffic to be managed and spread across the day in order to maintain social distancing. However, store traffic has not recovered to normal levels.
- Home Depot noted that during the last 3 weeks of April continuing into the first 2 weeks of Q2, they saw significant acceleration to double digit comp sales with strong performance across most categories as customers turn to repairs and home improvement projects. They also commented that they are not planning for negative comps in 2020. Lowe’s stated strength in DIY & Pro and across all merchandising categories while noting US comp sales to be trending at or above April levels with strong double-digit comps across all geographic regions for May month-to-date. Lowe’s pointed out triple-digit comps in Lowes.com that transitioned from April into May.

Back to Normal

The “Back to Normal” category includes some of the most heavily impacted consumer segments, including commuting, dining and all aspects of travel.

Consumer recovery in the back to normal category is led by a bounceback in gym apps downloads which grew +15% y/y in the most recent week, compared to -70% y/y three weeks ago, though this is being driven more by online content being offered than people returning to their gyms. Commuting continues to recover, with rideshare app downloads -46% y/y this past week (compared to -52% and -58% in the two weeks prior) and Google Mobility metrics for transit and workplaces improve. In comparison, flight-taking continues to be depressed with TSA passenger checkpoints -89% y/y and the number of passenger arrivals internationally at the top 5 US airports still down almost 100%. ShopperTrak data shows that weekly retail visits were -36% in the past week (vs -43% y/y at the beginning of May), while outlet mall visits were -90% y/y (vs -100% a month ago) as states reopen non-essential businesses.

Exhibit 8: “Back to Normal” metrics are down significantly, although starting to see small signs of recovery Feb 9 - Mar 15 excluded for presentation purposes; see prior reports for data

Basket	Sector	Company/App	Metric	y/y % change, unless otherwise noted											Source	
				Feb 3 - Feb 9	Mar 16 - Mar 22	Mar 23 - Mar 29	Mar 30 - Apr 5	Apr 6 - Apr 12	Apr 13 - Apr 19	Apr 20 - Apr 26	Apr 27 - May 3	May 4 - May 10	May 11 - May 17	May 18 - May 24		
Gym Attendance			US App Downloads	52%	33%	-49%	-64%	-53%	-40%	-80%	-70%	-55%	-31%	15%	Sensor Tower	
			US App Downloads	-18%	-50%	-63%	-67%	-66%	-59%	-58%	-52%	-38%	-23%	-22%		
			Gas Demand	1%	-3%	-27%	-48%	-46%	-44%	-36%	-32%	-19%	-28%		EIA	
Commuting	Google COVID-19 Community Mobility Reports		Transit % change from baseline		-33%	-48%	-50%	-52%	-50%	-48%	-43%	-42%	-40%		Google	
			Workplaces % change from baseline		-29%	-42%	-46%	-49%	-45%	-44%	-42%	-41%	-39%		Google	
Box Office			US Top 10 Gross	27%	-68%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	Box Office Mojo	
			Movies Released	-22%	-42%	-98%	-98%	-98%	-98%	-98%	-98%	-98%	-95%	-98%	Box Office Mojo	
Sports TV	ESPN NBCSN FS1		Ratings	-28%	-39%	-70%	-36%	-80%	-87%	-89%	-92%	-89%	-87%		Nielsen	
					15%	-53%	-36%	-46%	-11%	-25%	-34%	-43%	-46%	-25%		
Dining	OpenTable		Seated diners		-90%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-98%	-95%	-88%	OpenTable
			Weekly Visits	-8%	-33%	-49%	-49%	-49%	-48%	-45%	-43%	-40%	-38%	-36%	ShopperTrak RCT Corporation	
Retail			Outlet Malls Weekly Visits	-9%	-92%	-99%	-100%	-100%	-100%	-100%	-100%	-99%	-95%	-90%	ShopperTrak RCT Corporation	
			Beauty Aids \$/store	0%	-28%	-40%	-29%	-21%	-24%	-13%	-21%	-2%	-9%	-9%		
			Shaving \$/store	-5%	11%	-10%	-2%	-4%	-8%	6%	-5%	-5%	-3%	-1%	Catalina	
			Deodorants \$/store	2%	39%	-10%	-13%	-13%	-19%	-10%	-18%	-12%	-15%	-11%		
Retail and Recreation	Department stores		Consumer spend		-66%	-67%	-64%	-61%	-42%	-47%	-39%	-42%	-30%		Facteus	
			% change from baseline		-28%	-42%	-42%	-46%	-42%	-40%	-34%	-30%	-29%		Google	
			Amusement Parks Tounst Attractions	Consumer Spend		-92%	-85%	-81%	-83%	-71%	-87%	-80%	-82%	-83%		Facteus
Airlines	United Airlines Alaska Airlines		TSA checkpoints	-70%	-69%	-63%	-73%	-86%	-86%	-76%	-51%	-56%	-59%		Facteus	
			Consumer spend	0%	-28%	-40%	-29%	-21%	-24%	-13%	-21%	-2%	-9%	-9%		TSA
			Top 5 US Airports (Int Passenger Arrival)	-1%	-81%	-89%	-92%	-94%	-94%	-92%	-88%	-87%	-86%	-86%	-89%	Facteus
Lodging	Hilton Marriott		US Occupancy	-1%	-41%	-76%	-95%	-98%	-99%	-99%	-99%	-99%	-99%		GS Economics Team	
			US ADR	-1%	-56%	-67%	-69%	-70%	-64%	-62%	-59%	-56%	-54%		STR	
			Google Search Traffic	1%	-30%	-39%	-42%	-46%	-42%	-43%	-44%	-42%	-42%		STR	
Online Travel	Live Events		US App Downloads	-7%	-38%	-55%	-60%	-60%	-56%	-55%	-51%	-43%	-45%	-47%	Google	
					-12%	-41%	-60%	-74%	-76%	-75%	-74%	-78%	-69%	-63%		
Card Payments	Mastercard		US Switched Volume	37%	-58%	-72%	-75%	-73%	-57%	-66%	-65%	-61%	-55%	-50%	Sensor Tower	
					32%	-89%	-90%	-91%	-90%	-88%	-92%	-93%	-89%	-86%		
			US Downloaded Volume		-22%	-26%	-22%	-22%	-22%	-15%	-12%	-6%		Company data		

source for Google Community Mobility data: Google LLC “Google COVID-19 Community Mobility Reports”. <https://www.google.com/covid19/mobility/> Accessed: <16th May 2020>; Google search data from Google Trends

Source: Sources in exhibit, compiled by Goldman Sachs Global Investment Research

Back to normal category updates

- >2/3rds of states are allowing non-essential retail to re-open and companies have been ramping up store openings accordingly through the month. Dillard’s, Kohl’s and Macy’s noted that their stores were opening at ~50-60% of prior year sales volumes. On the other hand, TJX said re-opened stores were seeing >100% of prior year sales.
- Opentable seated diner data for the US continues to be down ~90%; however, certain states (particularly in the South/Midwest) are seeing trends improve to down ~60-75%. This data skews more toward independent restaurants vs publicly-traded chains, and also does not reflect potential upside from off-premise (e.g. restaurants

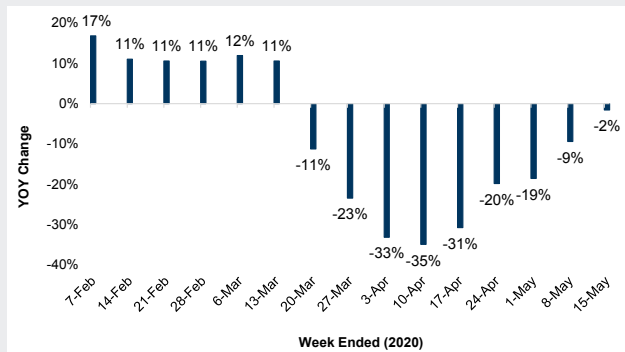
offering take-out or delivery). Recent updates from Olive Garden earlier this week suggests SSS trends are down ~25% in stores that have re-opened, and Chilis and Outback have seen trends improve to down mid-teens. Our bottom up analysis of chain restaurant location and state capacity restrictions suggests that ~70% of casual dining restaurants in the GS coverage universe are now open, operating at various capacity constraints.

- Universal parks are targeting June 5 for Reopening of Florida Theme Parks, pending approval from the governor. Comcast Corp. noted Universal had accommodated over 30,000 guests under similar restrictions at its CityWalk mall, which opened last week. Walt Disney Co. and SeaWorld Entertainment Inc. are also expected to submit plans to the county.

This week, our Homebuilders & Building Products Analyst Susan Maklari explains how housing has been particularly resilient amid the stay-at-home orders and tightening lending standards.

Greenshoots Despite Macro Backdrop: Housing has been surprisingly resilient during this period of volatility as consumers look to take advantage of increased affordability given the low rate environment. Our latest channel checks suggest the first week of April was the low point for home sales, reflecting the stay-at-home orders in place at the time. Since then, builders have seen weekly sequential improvement in activity with current trends not materially different compared to the same period last year. This is reflected in mortgage purchase applications, which were down just 1.6% for the week ended May 15. In our view, public builders are gaining share from smaller privates as well as the existing home market, reflecting their ability to invest in and shift to a virtual sales process as well as support ready-to-close spec units.

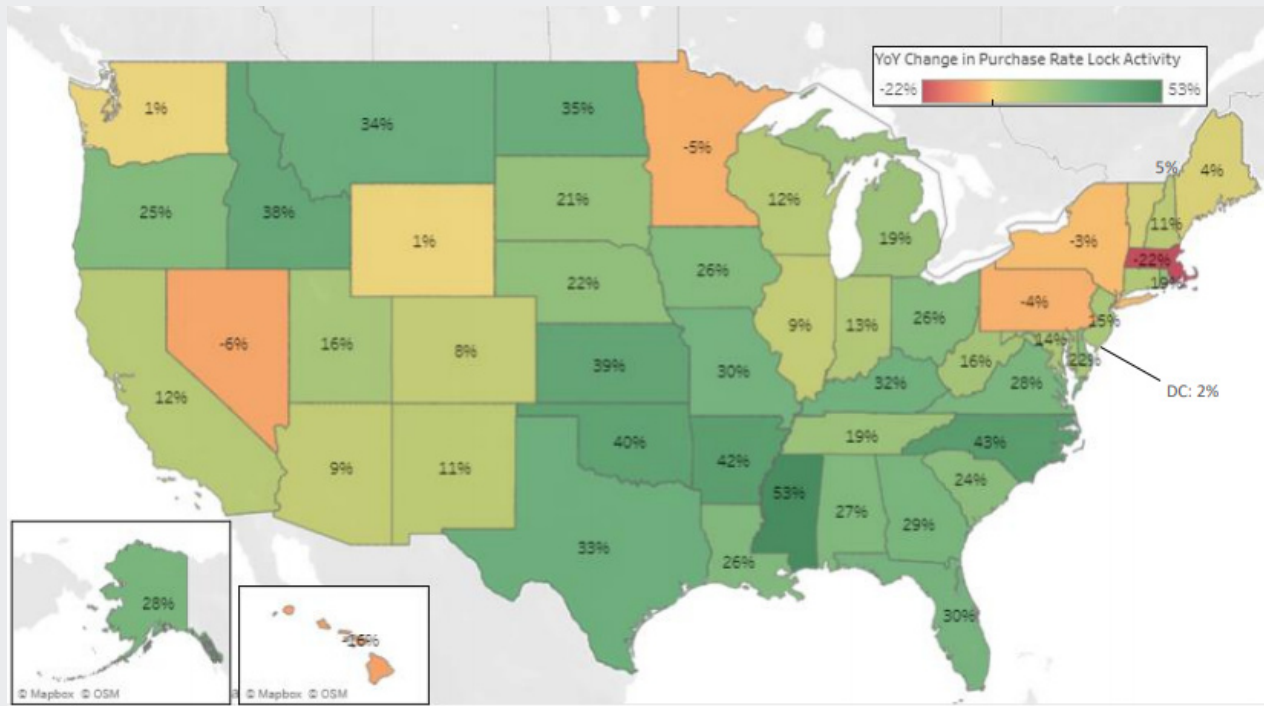
Exhibit 9: YOY Change in Weekly Mortgage Purchase Applications



Source: Mortgage Bankers Association, Data compiled by Goldman Sachs Global Investment Research

Based on data provided by the AEI Housing Center and Optimal Blue, mortgage purchase rate locks for the week ending May 22 were up 18% YOY (in-line with pre-pandemic levels), providing further evidence of the housing market recovery. Regional variations are generally in line with state level re-openings with strength largely concentrated in the South (e.g. NC, TX, FL), while the Northeast (e.g. NY, PA, MA) underperforms. This is in line with our view that the pace of recovery in housing will vary significantly by location. We note ongoing weakness in Nevada, where the local economy for the state’s largest housing market in Las Vegas is highly reliant on travel and tourism.

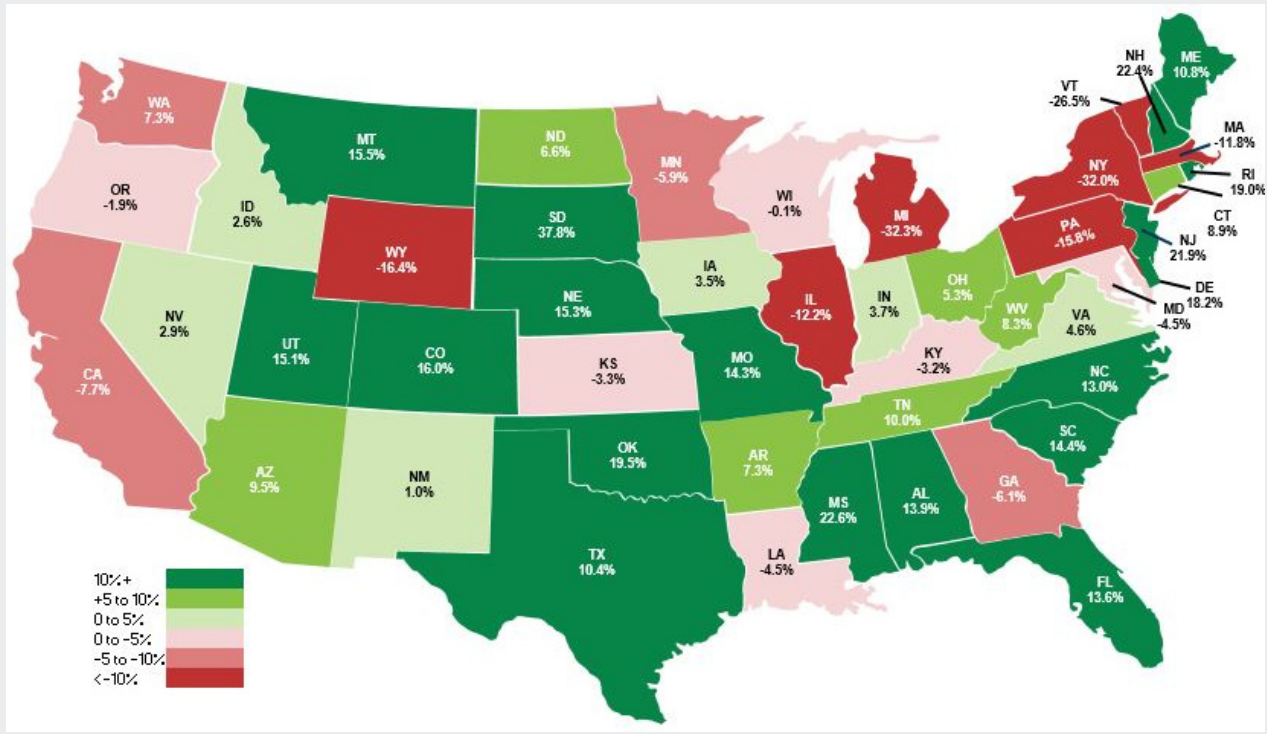
Exhibit 10: Change in Mortgage Purchase Rate Lock Activity YOY for the Week Ended May 22



Source: AEI Housing Center, Optimal Blue

On a trailing 12-month basis single family permits rose 4.5% YOY for April vs +5.5% last month. Considering the data on a trailing 3-month basis, they increased 5% YOY vs -7% last year, and compared to March up 19%. Overall, 26 states saw 5+% growth (vs 40 last month), including 18 that saw gains of greater than 10% (down from 35 as of last month). The South has seen above average gains led by Florida (+14% YOY) and Texas (+10% YOY), while the Northeast and Midwest remain soft with Pennsylvania, Massachusetts, New York and Illinois all declining 10%+ YOY. Given trends seen in mortgage purchases through May, we expect permits will continue to gain over the coming month. We note that permits serve as a leading indicator for starts and provide insight to future activity. As such, we'll continue to monitor on-the-ground trends as the spring selling season comes to a close.

Exhibit 11: Single-Family Permits by State (Trailing 3-Month Average YOY ended April)



Source: Census Bureau, Goldman Sachs Global Investment Research

Business Activities

Business activities are continuing to see signs of recovery. According to Gupta Media, Facebook & Instagram US CPMs were down -16% y/y in the most recent week vs. -41% at trough in the week of March 30th, suggesting that advertiser demand has continued to improve meaningfully as states continue respective reopening processes. Redfin reported home buying demand accelerating to +17% y/y after turning positive in the week of May 4-10 for the first time since the virus began widely impacting purchase plans. Personal health metrics for both branded and generic NRx volumes continue to stabilize from trough levels. As peoples’ mobility continues to be restricted across a number of states, most industrials trade metrics are still down y/y, though we expect more steady recovery as consumer demand recovers.

Exhibit 12: Business Activity metrics are also falling to reflect the economic impact of the crisis

Feb 3 - Mar 1 excluded for presentation purposes; see prior notes for data

Basket	Sector	Company/App	Metric	y/y % change, unless otherwise noted												Source		
				Mar 2 - Mar 8	Mar 9 - Mar 15	Mar 16 - Mar 22	Mar 23 - Mar 29	Mar 30 - Apr 5	Apr 6 - Apr 12	Apr 13 - Apr 19	Apr 20 - Apr 26	Apr 27 - May 3	May 4 - May 10	May 11 - May 17	May 18 - May 24			
Business Activity	Industrial consumer	3M	TSA passenger throughput	-12%	-29%	-59%	-90%	-94%	-96%	-96%	-95%	-94%	-93%	-91%	-89%	TSA		
			N.A. Airline forward schedules (1 month out)			-27%											OAG	
			Actual air traffic growth			-53%											IATA	
			Passenger aircraft in service	-7%	-10%	-33%	-53%	-59%	-61%	-61%	-59%	-59%	-57%	-55%	-55%		Cirium	
			Monthly sales														Company data	
	Autos			US Refinery Utilization %	-1%	-4%	-6%	-5%	-12%	-19%	-25%	-26%	-24%	-22%	-25%	-24%	EIA	
				Auto SAAR			-34%											Wards
				Domestic ethanol blending	0%	1%	-5%	-34%	-45%	-45%	-44%	-37%	-35%	-30%	-28%			
				Google Search Traffic	-3%	-9%	-28%	-26%	-29%	-27%	-28%	-21%	-10%	-6%	-4%	-4%		Google
				Mortgage Applications	12%	11%	-11%	-23%	-33%	-35%	-31%	-20%	-19%	-9%	-2%			Mortgage Bankers Association
	Industrial housing			Single-Family Housing Permits (NSA)			13%										Census Bureau	
				New Home For-Sale Inventory (Months of Supply, SAAR)			10%				3%						Census Bureau	
				Existing Home For-Sale Inventory (Months of Supply, SAAR)														National Association of Realtors (NAR)
				New Home Prices (Median)			5%											Census Bureau
				Existing Home Prices (Median)			8%											NAR
				New Home Sales (Units, SAAR)			-12%											Census Bureau
				Existing Home Sales (Units, SAAR)			1%											NAR
				Purchase Loan Rate Lock Activity							-18%	-16%	-16%	-17%	-15%	-8%	0%	AEI
				Texas cement shipments			3%											Texas Comptroller
				Redfin			14%	-2%	6%	-27%	-12%	-21%	-20%	-15%		6%	17%	Redfin
	Online Real Estate	Thumbtack		Home-buying demand	3%	0%	-27%	-36%	-28%	-22%	-4%	21%				Thumbtack		
				Customer Projects on Home Construction													Thumbtack	
				Customer Projects on Moving	-5%	-13%	-22%	-34%	-40%	-43%	-39%	-29%					Thumbtack	
				Retail sales														Company data
				New aircraft orders														Company data
Industrial equipment	Komtrax	Michelin	US industrial distributor sales (avg.)												Company data			
			Komtrax operating hours													Komtrax		
			North America replacement tire volumes			1%											Company data	
			Weekly rail economically sensitive carloads (US rails)	-8%	-6%	-9%	-15%	-16%	-21%	-21%	-20%	-18%	-19%	-19%		AAR		
			Weekly rail intermodal carloads (US rails)	-14%	-9%	-11%	-14%	-16%	-20%	-19%	-16%	-14%	-16%	-14%		AAR		
Industrial trade			Truck spot pricing													Truckstop		
			DAT load to van ratio			2.89											DAT	
			Truck Load Availability Index (2014=100)	101	122	131	127	87	55	44	42	50	59	73		Truckstop		
			Cass freight index														CASS	
			"Big 3" west coast ports inbound loaded containers														Port data	
Multi-Industry	FAST	MSM	GWW	Daily sales												Company data		
				Dental offices at 50%+ of normal													Company data	
				Branded Nrx volumes (mn)	3.7	3.8	3.8	3.3	3.0	2.9	2.8	2.7	2.7	2.8	2.8		ADA	
				Generic Nrx volumes (mn)	46	46	46	40	37	36	35	35	35	36	36		IQVIA	
				Cost per 1,000 Impressions	32%	4%	-23%	-33%	-41%	-39%	-35%	-36%	-24%	-24%	-22%	-16%		Gupta Media

Google search data from Google Trends

Source: Sources in exhibit, Goldman Sachs Global Investment Research

Business Activities category updates

- US construction equipment utilization rates continued to recover over the past two weeks based on Komatsu disclosures. In Truck Machinery, capacity utilization has continued to improve in May, with the DAT load-to-truck ratio up 18% from last week and 65% over the last month. In addition, spot rates grew +5% from last week.
- In transportation, we continue to hear early signs – especially from truckers – that the bottom is likely behind the sector from a volume perspective. While the pace and timing of recovery remains quite uncertain, truckers this past week (public and private, both at our conference and other industry events) suggested that tonnage sequentially improved from April into May. In essence, a bounce off the bottom is being experienced across the space, although y/y volumes are still down meaningfully.
- Our recent industry discussions suggest that US light vehicle sales are tracking to an annualized rate of 11-12.5mn in May, down about 30-35% y/y but up from 8.6mn in April. We believe that the increased loosening of state restrictions as well as attractive incentives (such as 0% financing for 84 months) are contributing to the pick-up in May compared to April. Separately, Google Trends data that we believe is related to new car buying was -4% y/y, and this is similar to last week.

The GS Reopening Scale

To look at all of these metrics in aggregate and quantify where consumers are on the path to economic recovery, we created a composite scale that is based on the inverse average of growth in all the sectors within “Stay at Home” categories and the normal average of “Back to Normal” categories relative to the week of February 3rd, reflecting where the consumer is between the two categories. We index a value of 100 to consumer activity in the week of February 3rd, before the impact of COVID-19 in the US, and the minimum value that the composite scale has reached is 36. We then translate the composite scale onto a GS reopening scale of 1-10 ([Exhibit 13](#)), where values less than or equal to 50 represent a 1 and a return to Feb 3rd levels would represent a 10.

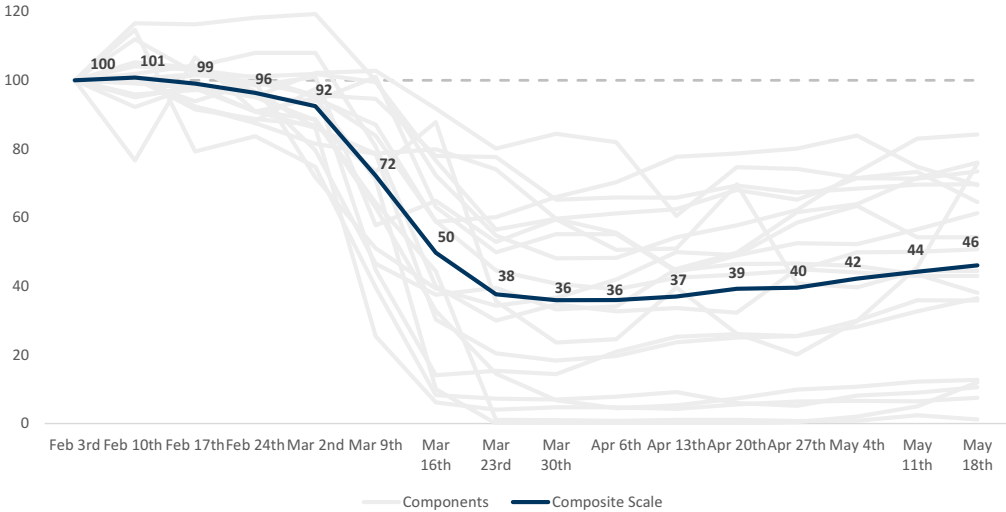
The GS reopening scale, based on the trajectory of the Composite Scale ([Exhibit 14](#)), first reached 1 in the week of March 16th, where it has remained for the 9 weeks since, indicating that consumers are still at the trough of impacts from COVID-19. However, despite the Reopening Scale remaining at 1, we’ve seen the composite scale begin to recover slightly from troughs we saw at the end of March and in early April, indicating that consumer behavior is heading in the right direction. We expect that as states begin to reopen for business these metrics will slowly begin to recover more meaningfully, bringing the scale back up. However, we would expect the recovery to a 10 to take at least a number of months, during which period the “Stay at Home” category will show significantly slower growth, while the “Back to Normal” category will likely moderate declines as people resume daily activities of dining, commuting and travel, among others.

Exhibit 13: Composite scale to Reopening Scale

Composite Scale	Reopening Scale
100+	10
91-99	9
86-90	8
81-85	7
76-80	6
71-75	5
66-70	4
61-65	3
51-60	2
≤50	1

Source: Goldman Sachs Global Investment Research

Exhibit 14: Composite Scale, Feb. 3 - May 24th
Date on x-axis represents first day of week measured



This exhibit summarizes data from sources listed in Exhibits 7, 8 and 12.

Source: Goldman Sachs Global Investment Research

We plan to update and refine this data weekly as a tool to measure the pace of reopening, measure consumer behavior and highlight sectors that may be benefiting or disproportionately impacted from the shape of that process.

Disclosure Appendix

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