Goldman Sachs | Economics Research

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US Economics Analyst

Pent-Up Savings and Post-Pandemic Spending (Briggs/Mericle)

- Fiscal support has kept disposable income high during the pandemic, but consumption has remained depressed because many normal spending opportunities have been unavailable. The result is that households have accumulated about $1.5tn in "excess" or "forced" savings, and we expect that to rise to about $2.4tn, or 11% of GDP, by the time that normal economic life is restored around mid-year. Whether households spend a modest or large share of these pent-up savings as the economy fully reopens could be the difference between a healthy recovery and overheating.
- Statistical models of consumer spending imply that households consume most of their current income but only a few cents per dollar of their wealth. The propensity to consume out of excess savings surely lies in between those two extremes, but it is hard to know exactly where. Unfortunately, the era of modern economic statistics offers little useful precedent.
- To gain insight into the share of excess savings that might be spent, we first estimate the shares of the excess savings held by different income groups and the form in which they hold them. We estimate that about 40% of the excess savings are held by the top quintile of the income distribution, while only about 20% are held by the bottom two quintiles combined. We further estimate that about 10% of the excess savings have been used to pay down debt, 40% have been used to buy illiquid assets, and 50% sit in the more liquid form of bank deposit accounts.
- We use our estimates of the distribution of excess savings to forecast the share that will be consumed when normal spending opportunities return. We assume, for example, that most excess savings held in bank deposit accounts by low-income households will be spent, while only a tiny share of excess savings invested in illiquid assets by high-income households will be spent.
- Our baseline estimates imply that a bit less than 20% of the excess savings will be spent in the first year after reopening, contributing roughly 2pp to GDP growth. But the uncertainty is high, and we think the impact could plausibly turn out to be anywhere from 1pp to 3pp.

Jan Hatzius
+1(212)902-0394 | jan.hatzius@gs.com
Goldman Sachs & Co. LLC

Alec Phillips
+1(202)637-3746 | alec.phillips@gs.com
Goldman Sachs & Co. LLC

David Mericle
+1(212)357-2619 |
david.mericle@gs.com
Goldman Sachs & Co. LLC

Spencer Hill, CFA
+1(212)357-7621 | spencer.hill@gs.com
Goldman Sachs & Co. LLC

Daan Struyven
+1(212)357-4172 |
daan.struyven@gs.com
Goldman Sachs & Co. LLC

Joseph Briggs
+1(212)902-2163 |
joseph.briggs@gs.com
Goldman Sachs & Co. LLC

Blake Taylor
+1(202)637-3756 | blake.taylor@gs.com
Goldman Sachs & Co. LLC

Ronnie Walker
+1(917)343-4543 |
ronnie.walker@gs.com
Goldman Sachs & Co. LLC

Laura Nicolae
+1(917)343-6594 | laura.nicolae@gs.com
Goldman Sachs & Co. LLC

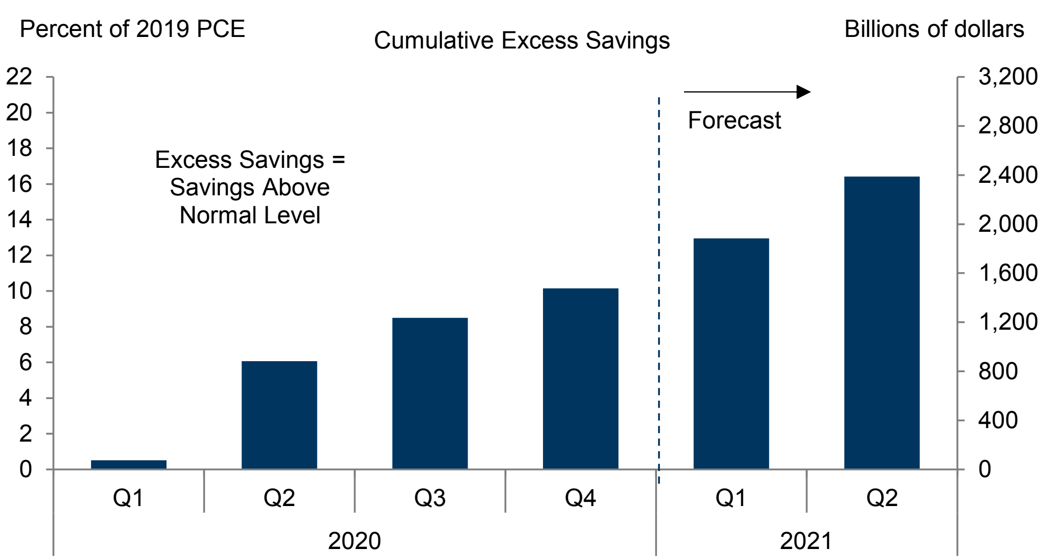
Pent-Up Savings and Post-Pandemic Spending

Fiscal support has kept disposable income high during the pandemic, but consumption has remained depressed because many normal spending opportunities have been unavailable. The result is that households have been "forced" to save at a much higher rate than they would have chosen under normal conditions, a phenomenon we first discussed last April.[1] We estimate that households have already accumulated about $1.5tn in "excess" savings, and we expect that to rise to about $2.4tn, or 11% of GDP, by the time that normal economic life is restored around mid-year, as shown in Exhibit 1.

The prospect of a simultaneous boost to demand from fiscal stimulus, excess savings, and post-vaccination reopening has led commentators including former Treasury Secretary Lawrence Summers and former IMF Chief Economist Olivier Blanchard to argue that the economy is at risk of overheating.

We are examining this risk of overheating in a series of three reports. Last Friday, we estimated that the impact of fiscal stimulus on the level of GDP will average 5-6% of GDP in 2021[2], roughly the size of the current output gap. In this week's *Analyst*, we take a closer look at the impact of excess savings on GDP. In a final note next week, we will look at the combined impact of fiscal stimulus, excess savings, post-vaccination reopening, and several more minor factors to take stock of the overall risk of overheating.

Exhibit 1: We Expect Excess Savings to Total 16% of Annual Consumption (or 11% of GDP) by Mid-Year



Source: Bureau of Economic Analysis, Goldman Sachs Global Investment Research

Forecasting the impact of excess savings on post-pandemic spending is difficult.

1 Joseph Briggs, David Mericle, and Ronnie Walker, "Income Losses vs. Fiscal Stimulus: Estimating Second-Round Effects from the Virus Shock," US Economics Analyst, April 29, 2020.

2 Joseph Briggs, David Mericle, and Alec Phillips, "The Fiscal Impulse in 2021 and Beyond," US Daily, February 12, 2020.

Statistical models of consumer spending imply that households consume most of their current income but only a few cents per dollar of their wealth. Excess savings are not quite income and not quite wealth, and the propensity to consume out of excess savings surely lies somewhere in between those two extremes. Where exactly it lies is important because whether households spend a modest or large share of these excess savings as the economy fully reopens could be the difference between a healthy recovery and overheating. Unfortunately, the era of modern economic statistics offers little useful precedent for this question.

Who Saved During the Pandemic?

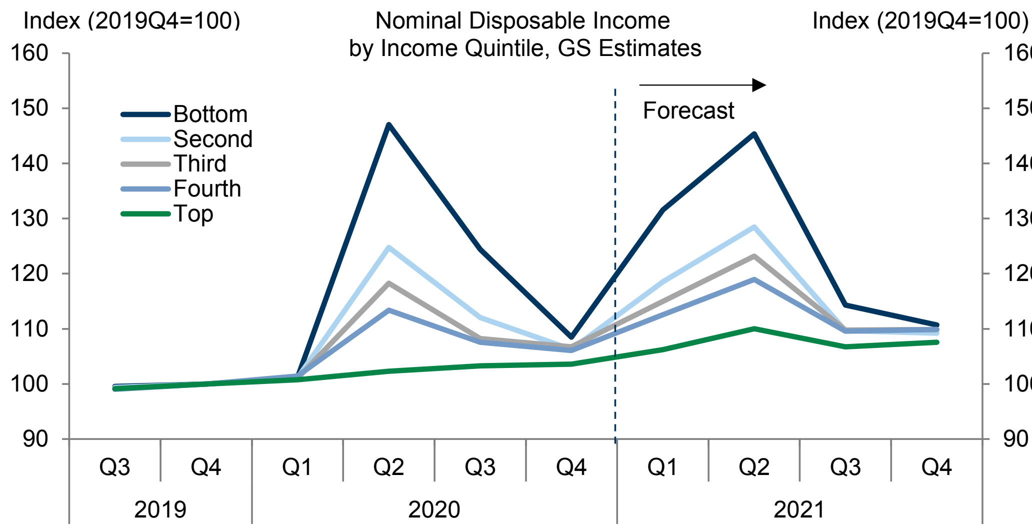
To gain insight into the share of excess savings that might be spent, we start by estimating the shares of the excess savings held by groups of different income levels and the form in which they hold them. Low-income households are more likely to spend their excess savings than high-income households, and excess savings sitting in bank deposit accounts are more likely to be spent than those that have already been used to pay down debt or to purchase assets such as equities or real estate.

As a first step, we estimate who holds the excess savings. We decompose our aggregate forecasts to estimate disposable income and consumption across income quintiles through 2021Q2, then subtract consumption from income to estimate how much excess savings each income quintile will accumulate.

To estimate the quarterly income paths for different income quintiles, shown in Exhibit 2, we update our earlier estimates of the distribution of disposable income to account for recent labor market and fiscal news.[3] As in 2020Q2, a large boost from pandemic-related transfers from the Phase 4 and Phase 5 fiscal packages will cause disposable income to spike in 2021H1, with stimulus checks and additional unemployment benefits boosting income for lower-income households and support for businesses boosting income for high-income households.

[3] Joseph Briggs, "Turning a K Into a V," US Economics Analyst, November 29, 2020. We estimate the distribution of disposable income by separately estimating the share of each component received by each income quintile. For labor income, we project forward the BEA's Distribution of Personal Income estimates using recent data on employment and wage growth and their historical cyclical patterns. For asset income, we again start with the BEA's distributional income estimates and project shares forward using the Federal Reserve's Distributional Financial Accounts. For transfer income, we estimate the distribution of regular transfers using data from the BEA and the CBO, and we estimate the distribution of pandemic-related transfers using group-specific unemployment rates and data from the Census Pulse Household Survey. Finally, we rescale our estimates so that our bottom-up distributional estimates are consistent with our forecast for aggregate disposable income.

Exhibit 2: To Estimate The Distribution of Excess Savings, We First Estimate Income by Quintile

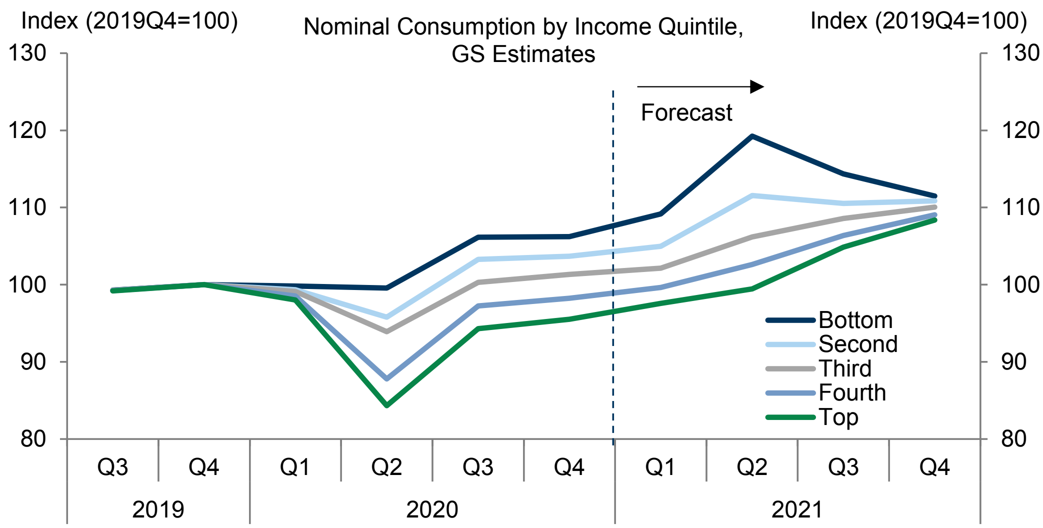


Source: Bureau of Economic Analysis, US Bureau of Labor Statistics, Congressional Budget Office, Federal Reserve Board, Goldman Sachs Global Investment Research

To estimate consumption across income quintiles, we start with data from the Consumer Expenditure Survey on expenditure shares by category for each income group. We project spending by income quintile through the end of 2020 by assuming that each income group's spending in each category falls or rises as much as aggregate spending in that category. Because the virus-sensitive services that declined the most during the pandemic account for a larger share of the spending of high-income households, this approach implies that spending by high-income households declined more sharply. We further adjust these estimates to match the dispersion in spending between households in high- and low-income geographies implied by the Opportunity Insights Economic Tracker. Finally, we extend our estimates through mid-2021 by assuming that services spending will recover more quickly as mass vaccination proceeds, and that lower-income households will spend a larger share of the fiscal support they receive from the Phases 4 and 5 packages.

Exhibit 3 shows our final estimates of consumption by income quintile. We estimate that consumption initially dropped for all income quintiles in 2020Q2. But spending by low-income households appears to have recovered quickly and even surpassed the pre-pandemic level last year as government transfers supported a surge in spending on goods. Spending by low-income households in particular jumped again in January 2021 in response to a second round of stimulus checks and will likely rise further in response to a third round of stimulus checks that we expect to be disbursed in March. In contrast, we estimate that spending by high-income households will remain below pre-pandemic levels until the virus-sensitive services that make up a disproportionate share of their budgets fully recover in 2021H2.

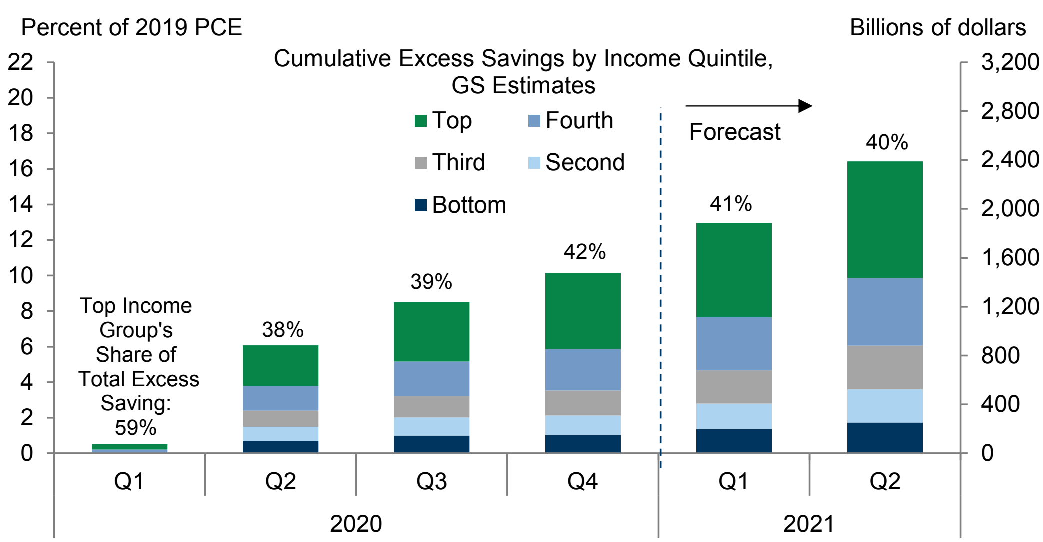
Exhibit 3: We Then Estimate Consumption for Each Income Quintile



Source: Bureau of Economic Analysis, Consumer Expenditure Survey, Opportunity Insights Economic Tracker, Goldman Sachs Global Investment Research

We estimate the distribution of excess savings since the pandemic by income quintile by subtracting each group's consumption from its income, with minor adjustments for interest expenses and other outlays. We estimate that 40% of the excess savings will be held by the top income quintile when excess savings peak in 2021Q2, while only about 22% will be held by the bottom two income quintiles combined (Exhibit 4). Excess savings are skewed toward higher-income households in part because their spending likely declined the most in percentage terms, and in part simply because their income is much higher.

Exhibit 4: We Forecast That the Top Income Quintile Will Hold About 40% of the Total Excess Savings

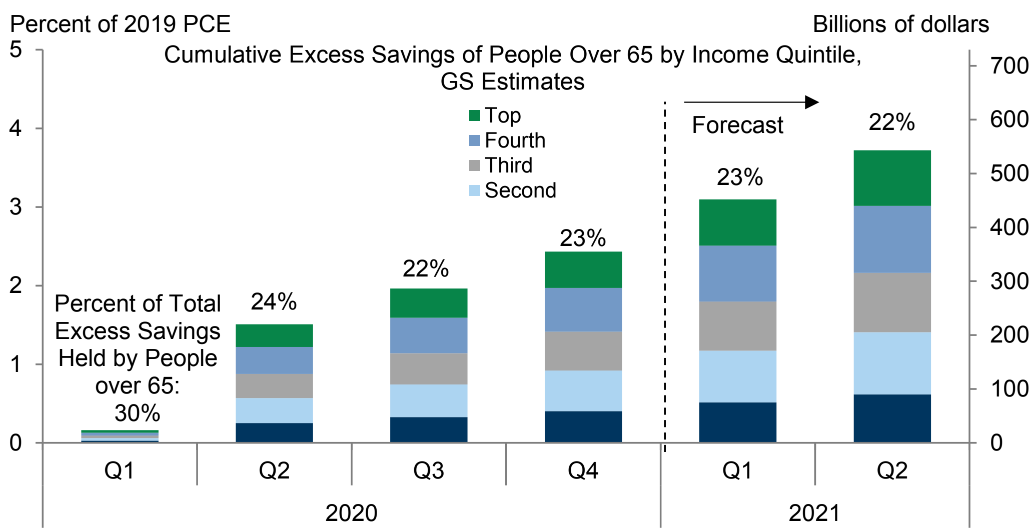


Source: Goldman Sachs Global Investment Research

In addition to decomposing the distribution of excess savings by income level, we also estimate the share held by older people, who might initially be somewhat reluctant to fully reengage in high-contact consumer service activities even after being vaccinated.[4] Older people might also be more accustomed to annuitizing their savings and therefore less likely to spend their excess pandemic savings quickly.

We use the same methodology as above to estimate income and consumption by households above and below the age of 65. We estimate that more than 20% of all excess savings are held by people over age 65, as shown in Exhibit 5. In our subsequent analysis we assume that this group's propensity to spend from excess savings is only half as large as that of younger people.

Exhibit 5: Over 20% of the Excess Savings Are Likely Held by Retirees, Who Might Remain More Cautious Even After Vaccination



Source: Goldman Sachs Global Investment Research

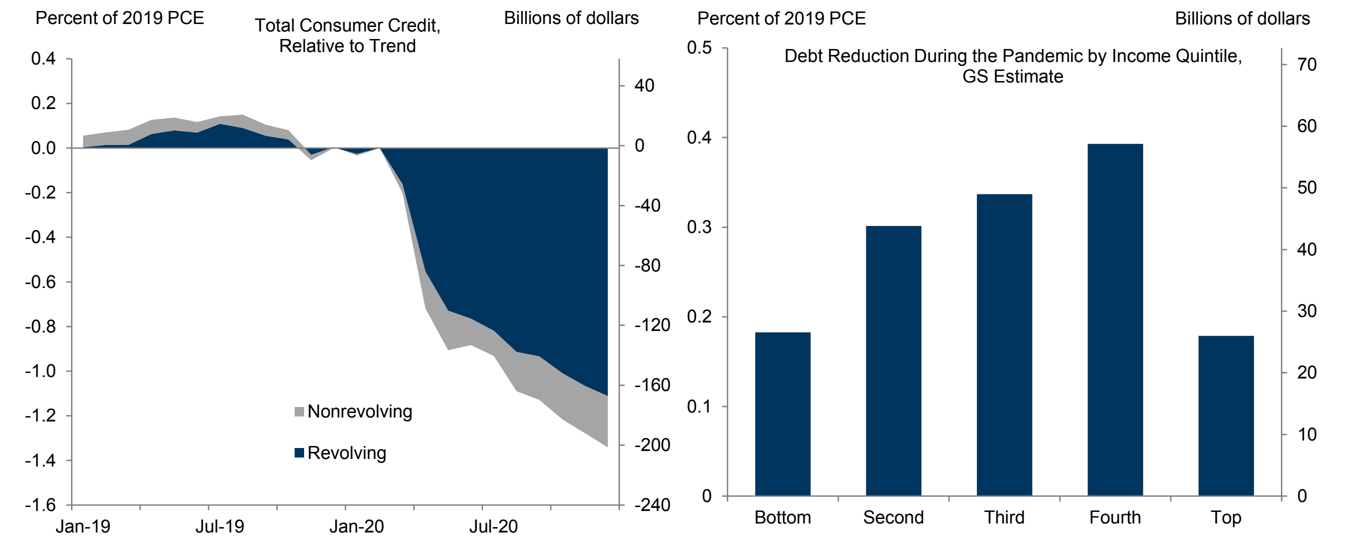
Where Are the Excess Savings Now?

We turn next to what households have done so far with their excess savings from the pandemic.

The decline in consumer credit since last winter, shown on the left of Exhibit 6, suggests that households have used about 10% of their excess savings to pay down debt. Extending forward data from the Distributional Financial Accounts, we estimate that most of the debt reduction has been concentrated in the middle of the income distribution, as shown on the right of Exhibit 6.

[4] Joseph Briggs and David Choi, "The 2021 Rebound: What Could Go Wrong?" US Economics Analyst, January 28, 2021.

Exhibit 6: Households Appear to Have Used About 10% of the Excess Savings to Pay Down Debt



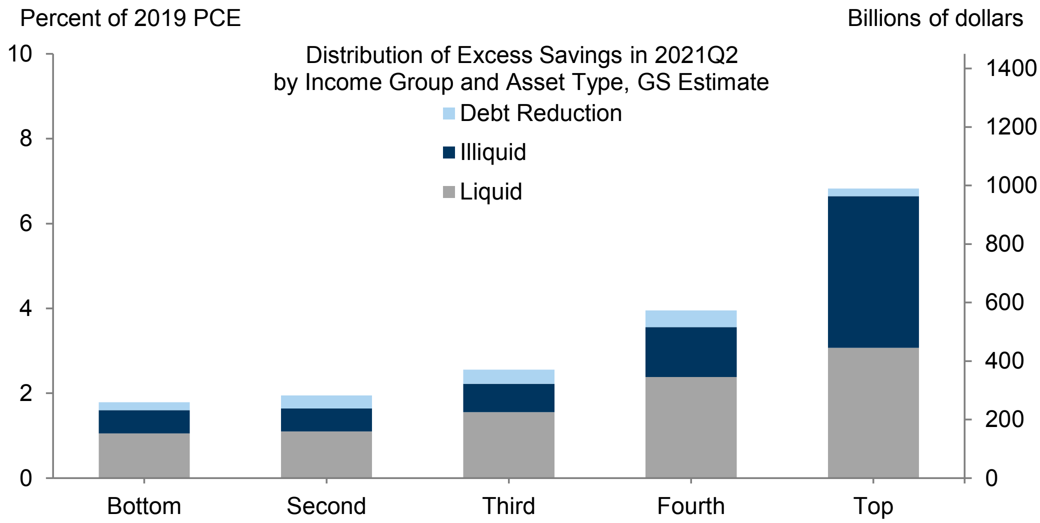
Source: Federal Reserve Board, Goldman Sachs Global Investment Research

Determining where the remaining 90% of the excess savings lie requires some estimation because the official data that break down household balance sheets by asset type are only available through 2020Q3. We first estimate changes in household bank account balances by combining data on bank account balances during the pandemic with data from the Federal Reserve's Flow of Funds and H.8 banking report and the Survey of Consumer Finances.[5] We then assume that any residual excess savings—total excess savings minus debt reduction minus the increase in bank account balances—have been invested in other more illiquid assets, such as equities or real estate.

Exhibit 7 presents our final estimate of the distribution of excess savings across income quintiles and asset type. By the time we expect economic life to normalize around mid-2021, we estimate that roughly 8% of the excess savings will have been used to pay down debt, 39% will have been used to buy illiquid assets, and 53% will sit in the more liquid form of bank deposit accounts. Of the excess savings that remain in liquid form, we estimate that 21% are held by the bottom two income quintiles combined, 16% by the middle quintile, and 63% by the top two quintiles.

[5] Specifically, we use the H.8 banking report to estimate the aggregate increase in checking and saving deposits during the pandemic, and then use Flow of Funds data on household balance sheets through Q3 to estimate the household sector's share of the increase. We then combine data on bank account balance changes by income group during the pandemic (from Diana Farrell et al., "Household Cash Balances during COVID-19: A Distributional Perspective," December 2020) with pre-pandemic bank account levels from the Federal Reserve's Survey of Consumer Finances to estimate the distribution of increases in bank account balances across income groups.

Exhibit 7: A Large Share of the Excess Savings Is Now Held by High-Income Households or in Illiquid Form



The Impact of Excess Savings on Post-Pandemic Spending and GDP

We next use our estimates of the distribution of excess savings shown in Exhibit 7 to estimate the share that will be consumed when normal spending opportunities return. We assume, for example, that most excess savings held in bank deposit accounts by low-income households will be spent, while only a tiny share of excess savings invested in illiquid assets by high-income households will be spent.

Specifically, we assume that for households in the bottom income quintile, the propensity to consume in the first year after full reopening out of $1 of excess savings will be 60 cents for liquid assets, 30 cents for debt reduction—reflecting the possibility that debt might partially revert toward its pre-pandemic level—and 15 cents for illiquid assets. For households in the top income quintile, we assume that the corresponding figures are 15 cents for liquid assets, 2.5 cents for debt reduction, and 1.5 cents for illiquid assets.[6] We use intermediate assumptions for income quintiles two, three, and four.

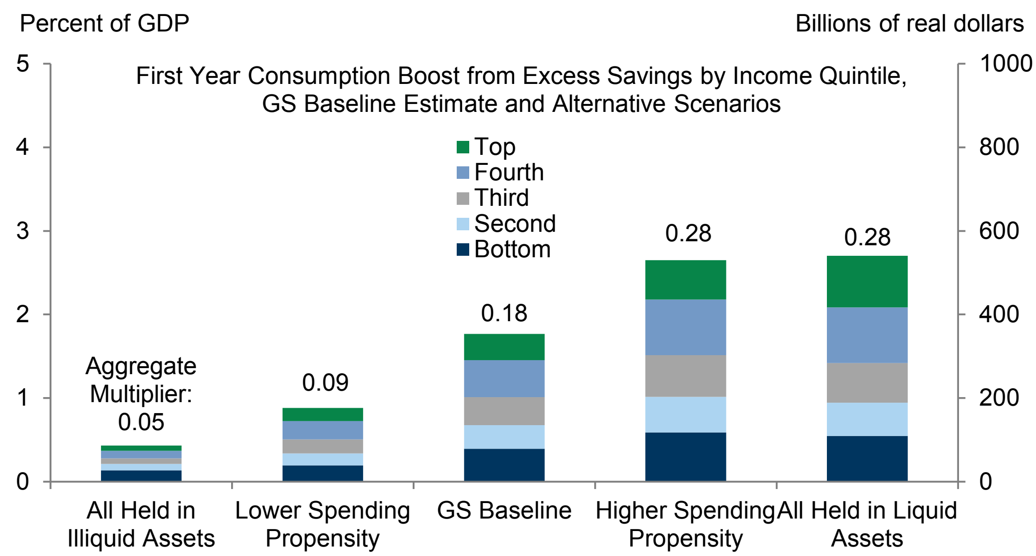
Combining these assumptions about propensities to consume with our estimates of where the excess savings lie, shown above in Exhibit 7, we arrive at our baseline estimate that 18% of the excess savings will be spent in the first year after the economy fully reopens, as shown by the middle bar in Exhibit 8. This implies that excess savings amounting to about 11% of GDP will boost post-pandemic spending by enough to contribute roughly 2pp to GDP growth. The exhibit shows that the contributions to the total impact from each income group are fairly even—while low-income households appear to have a much smaller share of the total excess savings, they are likely to spend a much larger share of what they have.

The uncertainty around our baseline estimate is high, and we also consider a few

[6] The low MPCs from illiquid assets are calibrated based on academic studies that estimate that spending increases by a few cents for each dollar increase in financial and housing wealth.

alternative scenarios. The impact would be smaller if we are underestimating the share of excess savings that have already been invested in illiquid assets or if propensities to consume turn out to be lower than we assume, while the impact would be larger if we are underestimating the share of excess savings that remain in liquid form or if propensities to consume turn out to be higher than we assume. Looking across the range of scenarios shown in Exhibit 8, we think that 1-3pp is a plausible range for the impact on GDP growth.

Exhibit 8: We Estimate That Spending of Excess Savings Will Contribute 2pp to GDP Growth in the First Year After Full Reopening



Source: Goldman Sachs Global Investment Research

In a final report next week, we will assess the combined impact of fiscal stimulus, excess savings, post-vaccination reopening, and several more minor factors to take stock of the overall risk of overheating. We caution that the total impact is likely to be smaller than the sum of the parts estimated individually because most consumers tend to deviate only so much from their normal spending habits.

Joseph Briggs

David Mericle

The US Economic and Financial Outlook

THE US ECONOMIC AND FINANCIAL OUTLOOK
(% change on previous period, annualized, except where noted)

	2019	2020	2021	2022	2023	2024	2021				2022			
			(f)	(f)	(f)	(f)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
OUTPUT AND SPENDING														
Real GDP	**2.2**	**-3.5**	6.8	4.5	1.7	1.7	5.0	11.0	9.0	6.0	3.0	3.0	2.0	1.5
Real GDP (annual=Q4/Q4, quarterly=yoy)	**2.3**	**-2.5**	7.7	2.4	1.5	1.9	0.0	12.8	7.2	7.7	7.2	5.2	3.5	2.4
Consumer Expenditures	**2.4**	**-3.9**	7.4	4.9	1.7	1.6	3.9	12.5	11.0	7.0	2.5	3.0	2.0	1.5
Residential Fixed Investment	**-1.7**	**5.9**	16.9	5.0	2.6	2.0	20.0	7.0	7.0	6.0	5.0	4.0	3.0	3.0
Business Fixed Investment	**2.9**	**-4.0**	7.3	4.5	3.7	3.7	7.3	7.1	6.3	4.8	3.7	3.9	4.1	3.8
Structures	**-0.6**	**-10.5**	-3.0	2.1	2.7	2.5	4.9	1.0	1.0	1.0	2.0	3.0	4.0	2.5
Equipment	**2.1**	**-5.0**	13.2	4.1	2.5	2.5	6.9	10.0	8.0	5.0	2.5	2.5	2.5	2.5
Intellectual Property Products	**6.4**	**1.5**	6.5	6.3	5.7	5.5	9.0	7.0	7.0	6.5	6.0	6.0	6.0	6.0
Federal Government	**4.0**	**4.4**	1.0	0.1	0.0	0.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
State & Local Government	**1.3**	**-0.9**	0.4	2.8	0.6	0.5	2.1	2.0	3.0	5.0	3.5	2.0	0.5	0.5
Net Exports ($bn, '12)	**-918**	**-926**	-1,152	-1,140	-1,139	-1,135	-1138	-1155	-1155	-1159	-1148	-1140	-1137	-1136
Inventory Investment ($bn, '12)	**49**	**-82**	94	85	65	65	58	110	110	100	100	90	80	70
Industrial Production, Mfg.	**-0.2**	**-6.7**	10.1	6.1	2.1	1.7	8.2	12.6	11.4	8.5	4.7	3.7	2.7	2.1
HOUSING MARKET														
Housing Starts (units, thous)	**1,295**	**1,397**	1,440	1,519	--	--	1,398	1,370	1,502	1,492	1,482	1,509	1,538	1,545
New Home Sales (units, thous)	**685**	**813**	755	803	795	795	779	719	749	774	803	815	800	795
Existing Home Sales (units, thous)	**5,330**	**5,678**	6,847	6,963	7,082	7,201	6,805	6,833	6,861	6,889	6,919	6,949	6,978	7,008
Case-Shiller Home Prices (%yoy)*	**3.4**	9.6	4.7	4.6	3.8	--	7.9	8.5	6.4	4.7	4.7	4.7	4.8	4.6
INFLATION (% ch, yr/yr)														
Consumer Price Index (CPI)**	**2.3**	**1.3**	2.3	1.8	2.1	2.3	1.6	3.3	2.5	2.3	2.1	1.7	1.8	1.8
Core CPI **	**2.2**	**1.6**	1.9	2.2	2.3	2.4	1.4	2.2	1.7	1.8	2.1	2.1	2.2	2.2
Core PCE** †	**1.6**	**1.5**	1.85	1.85	2.05	2.15	1.5	2.1	1.8	1.9	1.8	1.8	1.8	1.8
LABOR MARKET														
Unemployment Rate (%)^	**3.6**	**6.7**	4.1	3.7	3.4	3.2	6.2	5.4	4.6	4.1	3.8	3.7	3.7	3.7
U6 Underemployment Rate (%)^	**6.8**	**11.7**	8.3	7.3	6.9	6.4	10.9	9.8	8.8	8.3	7.7	7.5	7.4	7.3
Payrolls (thous, monthly rate)	**168**	**-778**	606	230	133	120	316	800	717	592	333	200	200	185
GOVERNMENT FINANCE														
Federal Budget (FY, $bn)	**-984**	**-3,132**	-3,200	-2,000	-1,450	-1,400	--	--	--	--	--	--	--	--
FINANCIAL INDICATORS														
FF Target Range (Bottom-Top, %)^	**1.5-1.75**	**0-0.25**	0-0.25	0-0.25	0-0.25	0.5-0.75	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25	0-0.25
10-Year Treasury Note^	**1.92**	**0.93**	1.50	1.85	2.05	2.25	1.15	1.25	1.40	1.50	1.60	1.70	1.80	1.85
Euro (€/$)^	**1.12**	**1.22**	1.28	1.30	1.30	1.30	1.21	1.23	1.27	1.28	1.28	1.29	1.29	1.30
Yen ($/¥)^	**109**	**103**	101	100	99	99	105	105	103	101	100	100	100	100

* Weighted average of metro-level HPIs for 381 metro cities where the weights are dollar values of housing stock reported in the American Community Survey. Annual numbers are Q4/Q4.
** Annual inflation numbers are December year-on-year values. Quarterly values are Q4/Q4.
† PCE = Personal consumption expenditures. ^ Denotes end of period.
Note: Published figures in bold.
Source: Goldman Sachs Global Investment Research.

Source: Goldman Sachs Global Investment Research

Economic Releases

Date		Time (ET)	Indicator	Estimate GS	Consensus	Last Report
Tue	**Feb 16**	8:30	Empire Manufacturing Survey (February)	n.a.	+6.3	+3.5
Wed	**Feb 17**	**8:30**	**Producer Price Index, Final Demand (January)**	**+0.4%**	**+0.4%**	**+0.3%**
			Ex Food and Energy	**+0.2%**	**+0.2%**	**+0.1%**
			Ex Food, Energy, and Trade	**+0.2%**	**+0.2%**	**+0.4%**
		8:30	**Retail Sales (December)**	**+2.0%**	**+0.9%**	**-0.7%**
			Ex Autos	**+2.2%**	**+0.9%**	**-1.4%**
			Ex Autos and Gas	**+2.1%**	**+0.5%**	**-2.1%**
			Ex Autos, Bldg Materials, and Gas	**+2.2%**	**+1.0%**	**-1.9%**
		9:15	**Industrial Production (January)**	**+0.5%**	**+0.4%**	**+1.6%**
			Capacity Utilization	**74.8%**	**74.9%**	**74.5%**
			Manufacturing Production	**+0.8%**	**+0.7%**	**+0.9%**
		10:00	NAHB Housing Market Index (February)	n.a.	83	83
Thu	**Feb 18**	**8:30**	**Housing Starts (January)**	**Flat**	**-0.7%**	**+5.8%**
			Building Permits	n.a.	-2.0%	+4.5%
		8:30	**Initial Jobless Claims**	**725k**	**765k**	**793k**
			Continuing Claims	n.a.	**4,423k**	**4,545k**
		8:30	Import Price Index (January)	n.a.	+1.0%	+0.9%
		8:30	**Philadelphia Fed Manufacturing Index (February)**	**18.0**	**20.0**	**26.5**
Fri	**Feb 19**	9:45	Markit US Manufacturing PMI (February preliminary)	n.a.	58.5	59.2
		9:45	Markit US Services PMI (February preliminary)	n.a.	57.9	58.3
		10:00	**Existing Home Sales (January)**	**-3.0%**	**-2.0%**	**+0.7%**

Source: Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Jan Hatzius, Alec Phillips, David Mericle, Spencer Hill, CFA, Daan Struyven, Joseph Briggs, Blake Taylor, Ronnie Walker and Laura Nicolae, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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