Americas Payment Technology

3Q22 Preview: If V/MA are underperforming the market, is anywhere in fintech safe?

Will Nance
+1(212)357-7438 | will.nance@gs.com
Goldman Sachs & Co. LLC

Alex Toepfer
+1(801)884-4313 | alex.toepfer@gs.com
Goldman Sachs & Co. LLC

Rajul Bothra
+1(917)343-6326 | rajul.bothra@gs.com
Goldman Sachs & Co. LLC

Jack Evans
+1(212)357-3560 | jack.evans@gs.com
Goldman Sachs & Co. LLC

Katie Huffert
+1(801)744-0801 | katie.huffert@gs.com
Goldman Sachs & Co. LLC

Heading into 3Q earnings, the average stock in our coverage is -10% QTD as concerns over continued elevated inflation and continued revisions to the path of interest rates drove markets back near the lows. Within our coverage, larger cap names have led the way lower, whereas our growthier coverage has held in slightly better. Overall we see mixed trends in the group, as macro tailwinds from reopening over the past year have likely started to shift to headwinds as consumer confidence weakens, FX is a significant headwind to international revenues, and uncertainty is relatively high, making it difficult for mgmt teams to assuage fears into the remainder of the year. Against this backdrop, below we outline our thoughts on the space into the quarter.

Large caps: Sentiment has deteriorated in the large cap names, particularly around **V/MA**, as the stocks have lagged on what we believe is a combination of positioning, FX headwinds, and limited near-term catalysts for outperformance. With investors focused on downside risks, including 1) FX headwinds (all), 2) stalling out / retracement of cross border recovery **(V/MA)** and 3) UK spending weakness **(FIS)** and margins **(FISV)**, we believe the bar is fairly low for the group into the print, although it is unclear what levers the companies have to offset these impacts. Our top picks among large caps in the space are V and FIS, both which we believe should have highly defensive earnings in a downturn and are both trading at highly attractive valuations in our view. That said, into the quarter, we prefer FIS as we believe sentiment is beginning to turn as investors look for an “all clear” sign on de-risked numbers (which we think is EPS in the ~$7.30 - $7.40 range for next year). On the other hand, we are somewhat cautious on FISV margin expansion in 3Q, although we expect revenue dynamics to hold in well.

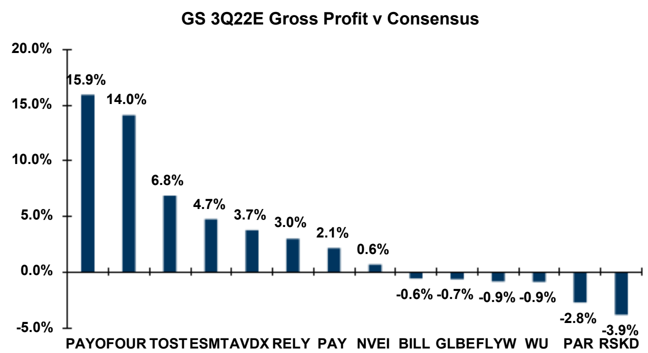
Growth / SMID: SMID cap and growth assets have meaningfully outperformed larger cap names in our coverage, as these companies had been very weak year to date and generally guided conservatively into the back half of the year. While we think the bar is likely higher into this quarter’s prints given the relative performance, we are most constructive into the quarter on **PAYO** (interest)**, TOST** (Software ARPU)**, HOOD** (top line beat + cost saves) **and FLYW** (WPM synergies)**,** while we are somewhat more cautious on **GLBE** (FX, EU macro) and **WU** (outlook). We also expect solid prints for **FOUR** (gross margin) and **ESMT** (SMB), but we acknowledge recent strong stock performance sets up a higher bar into earnings, and so our view is more balanced into earnings.

FX headwinds likely to weigh on full-year guides across the board: With the USD strengthening by 19% YTD and 9% since June, we expect FX to take a bite out of expectations for the remainder of the year and into 2023. Overall we see an incremental 1-2% impact on average versus prior full-year outlooks (2-4% on a runrate basis in the back half of the year). In terms of best and worst positioned, we would highlight **GLBE** (-3.9% rev impact) and **FLYW** (-2.4% rev impact) and **V/MA** (~2% topline impact) as most impacted, while **PAYO** (-0.6% rev impact, +ve EBITDA impact) screens as a net beneficiary as a result of its heavily international weighted expense base and largely USD denominated revenues.

Deeper Dive: What to do with FIS? Underperforming growth stock, or attractive value stock? With shares down ~27% since 2Q22 earnings and investors' sentiment highly mixed, we take a fresh look at each segment to help rebase expectations for the company after 1-2 years of mixed performance versus peers (particularly in merchant). While much of the conversation revolves around whether FIS can keep pace with growthier peers in the payments space, at ~11x 2023 EPS, we believe the story is highly compelling from a value lense, and capable of delivering double-digit EPS growth beyond next year, even with Merchant growth trailing the market and with elevated levels of investment spending in Banking. Our bottom-up work on revenue expectations and incremental margins by business line suggests that FIS could point to the lower end of its long term targets as the new mgmt/IR team look to reset the narrative and investor expectations. We now see ~6-7% topline growth (incl ~8-9% in merchant) as our base case, with margin expansion in the 50-60bps range (including limited margin expansion in Banking solutions as the company continues to build out its MBP platform). However, given the significant underperformance and Street numbers already sitting at the low end of FIS's targets, we believe this is fairly well understood, and at ~$7.35 2023E EPS, we believe the risk reward is highly favorable. Our SOTP suggests ~38% upside to shares, and we believe the current valuation is effectively pricing in very little value for the merchant business. We would look over the next 2 quarters for mgmt to reset the bar, as well as deliver some incremental efficiency initiatives on the cost side as catalysts for share to re-rate.

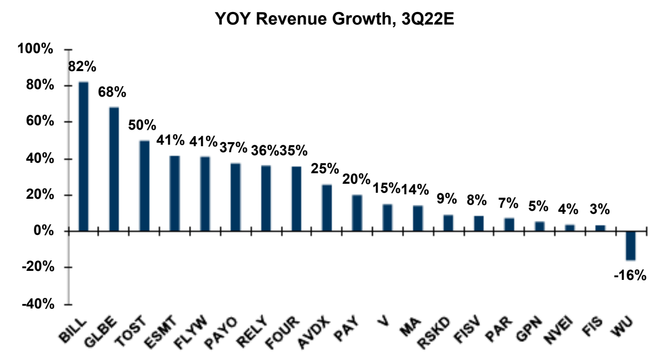
3Q22 Preview: Earnings and Valuation trends across our coverage

Exhibit 1: GSe gross profit estimates are largely conservative compared to consensus



Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Exhibit 2: Revenue growth according to GSe estimates is largely anticipated to be in the >20% range



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 3: CY3Q22 GS vs. Consensus estimates

CY 3Q22	V	MA	FIS	FISV	GPN	PAR	WU	FOUR	TOST	RELY	ESMT	GLBE	NVEI	BILL	RSKD	FLYW	PAYO	PAY	AVDX
Volume	2,954	1,694						19.2	25.1	7.3	33.5	600	25.5	64.1	24.6	7.5	15.0	95.3	17.8
Consensus Volume	3,014	1,693						19.1	24.6	7.1	36.5	611	25.7	63.2	24.5	7.4	14.8	90.5	17.8
GS vs consensus	**-2%**	**0%**						**1%**	**2%**	**3%**	**-8%**	**-2%**	**-1%**	**1%**	**0%**	**1%**	**2%**	**5%**	**0%**
Revenue	7,530	5,682	3,618	4,292	2,103	84	1,079	201	728	165	78	99	190	212	57	87	168	49	82
Consensus Revenue	7,573	5,655	3,624	4,261	2,048	83	1,080	189	717	162	75	102	189	210	59	89	145	49	79
GS vs consensus	**-1%**	**0%**	**0%**	**1%**	**3%**	**1%**	**0%**	**6%**	**1%**	**2%**	**5%**	**-2%**	**0%**	**1%**	**-3%**	**-2%**	**16%**	**0%**	**4%**
Net Take Rate (%)	0.25%	0.34%						0.87%	0.50%	2.25%	$1.30	16.55%	0.75%	0.22%	0.23%	1.17%	1.12%	$0.51	0.32%
Consensus Net Take Rate (%)	0.25%	0.33%						0.77%	0.49%	2.27%	$1.18	16.63%	0.74%	0.23%	0.24%	1.21%	0.98%	$0.54	0.30%
GS vs consensus	**0bps**	**0bps**						**10bps**	**1bps**	**-2bps**	**10%**	**-8bps**	**1bps**	**0bps**	**-1bps**	**-4bps**	**14bps**	**-5%**	**2bps**
Adjusted Gross Profit						21	453	132	151	101	62	39	154	175	27	61	135	38	52
Consensus Adjusted Gross Profit						22	457	116	141	98	59	39	153	176	28	62	117	37	50
GS vs consensus						**-3%**	**-1%**	**14%**	**7%**	**3%**	**5%**	**-1%**	**1%**	**-1%**	**-4%**	**-1%**	**16%**	**2%**	**4%**
Adjusted Gross Profit Margin						25%	42%	66%	21%	61%	79%	39%	81%	83%	47%	70%	80%	78%	64%
Consensus Adjusted Gross Profit Margin						26%	42%	61%	20%	60%	78%	39%	81%	84%	47%	69%	81%	77%	64%
GS vs consensus						**-96bps**	**-31bps**	**448bps**	**104bps**	**77bps**	**3bps**	**59bps**	**13bps**	**-117bps**	**-56bps**	**59bps**	**-21bps**	**167bps**	**9bps**
Adjusted EBITDA	5,202	3,409	1,646	1,850	930	(8)	240	79	(24)	(3)	13	10	72	3	(19)	20	23	4	(6)
Consensus Adjusted EBITDA	5,185	3,412	1,602	1,862	923	(5)	248	76	(32)	(6)	10	10	74	3	(20)	19	(6)	7	(9)
GS vs consensus	**0%**	**0%**	**3%**	**-1%**	**1%**	**NA**	**-3%**	**4%**	**-24%**	**NA**	**27%**	**-2%**	**-2%**	**NA**	**-6%**	**3%**	**NA**	**NA**	**NA**
Adjusted EBITDA Margin	69.1%	60.0%	45.5%	43.1%	44.2%	-10.1%	22.3%	39.4%	-3.3%	-2.0%	16.4%	10.1%	38.0%	1.2%	-32.4%	22.6%	13.9%	8.1%	-7.9%
Consensus Adjusted EBITDA Margin	68.5%	60.3%	44.2%	43.7%	45.1%	-6.6%	22.9%	40.2%	-4.5%	-3.6%	13.5%	10.0%	38.8%	1.5%	-33.5%	21.6%	-4.1%	14.1%	-11.0%
GS vs consensus	**62bps**	**-34bps**	**130bps**	**-57bps**	**-82bps**	**-348bps**	**-67bps**	**-84bps**	**112bps**	**162bps**	**284bps**	**2bps**	**-80bps**	**-30bps**	**112bps**	**100bps**	**1806bps**	**-592bps**	**311bps**
Adjusted EPS	1.85	2.58	1.80	1.66	2.44	(0.45)	0.39	0.47	(0.05)	(0.04)	0.06	0.04	0.39	0.06	(0.12)	0.13	0.02	(0.02)	(0.08)
Consensus Adjusted EPS	1.87	2.57	1.76	1.70	2.52	(0.40)	0.39	0.39	(0.07)	(0.17)	0.04	0.05	0.40	0.05	(0.11)	0.14	0.00	0.01	(0.10)
GS vs consensus	**-1%**	**0%**	**2%**	**-2%**	**-3%**	**NA**	**0%**	**21%**	**NA**	**NA**	**NA**	**NA**	**-1%**	**NA**	**NA**	**-5%**	**NA**	**NA**	**NA**

*Note: ESMT and PAY volume and take rates are based on transaction count and revenue per transaction, respectively
*Note: BILL & GPN adjusted EBITDA based on adjusted operating income
*Note: Net Take Rate based on Fintech GP for TOST, Net Payment Revenue for FOUR, Payments Revenue for AVDX, Transaction fees for BILL, & Processing revenue for ESMT

Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

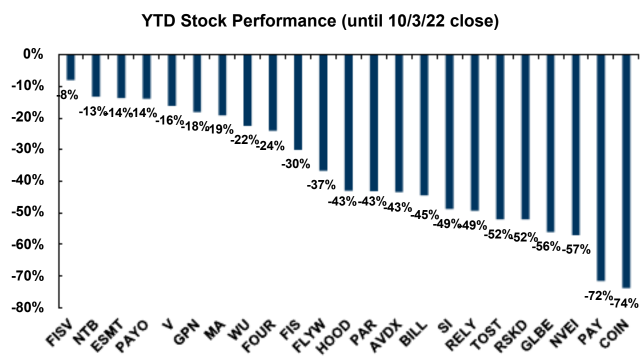
Exhibit 4: CY3Q22 GS vs. Consensus

3Q22 GS vs consensus									
$mn	COIN	SI	HOOD	NTB	$mn	COIN	SI	HOOD	NTB
Net interest income					Total Revenue				
GS		109	147	90	GS	721	113	392	141
Cons		88	110	91	Cons	651	97	351	141
Difference		24%	33%	0%	Difference	11%	17%	12%	0%
Net interest margin					Expenses				
GS		2.97%		2.61%	GS	1,256	39	680	84
Cons		2.38%		2.59%	Cons	1,297	39	635	83
Difference		0.59%		0.02%	Difference	-3%	0%	7%	0%
Trading revenues					Pretax income				
GS	526		218		GS	-82	74	14	57
Cons	491		203		Cons	-197	58	-61	56
Difference	7%		7%		Difference	-58%	29%	122%	1%
Fee based revenues					EPS				
GS	195	9	28	50	GS		$1.67		$1.10
Cons	158	9	38	50	Cons		$1.31		$1.10
Difference	23%	-8%	-25%	1%	Difference		27%		0%

COIN comparisons reflects "net revenue" for revenue, COIN and HOOD use "Adj EBITDA" for pretax income

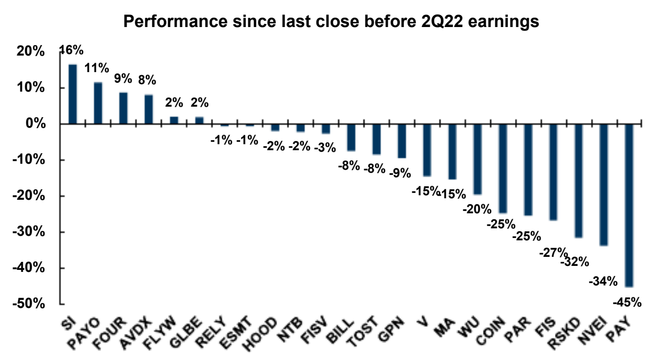
Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 5: YTD sector stock performance has undoubtedly been negative, reflecting broader market trends



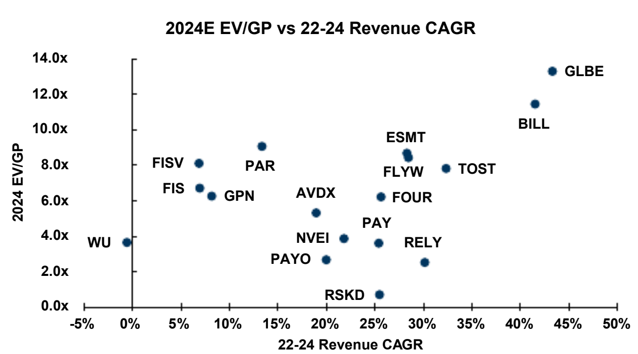
Source: FactSet

Exhibit 6: Stock performance since 2Q22 earnings has largely been negative as well



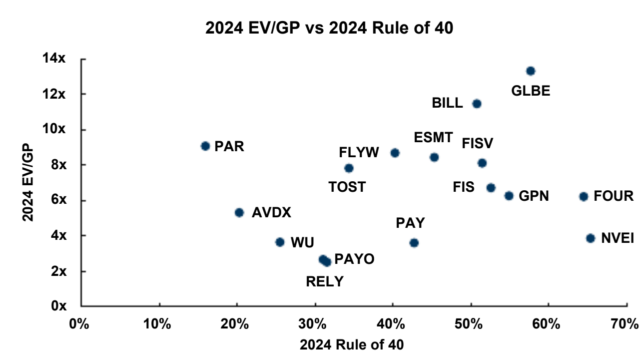
Source: FactSet

Exhibit 7: 2024E EV/GP is correlated with expected revenue growth



Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Exhibit 8: Valuation has correlated well with the Rule of 40



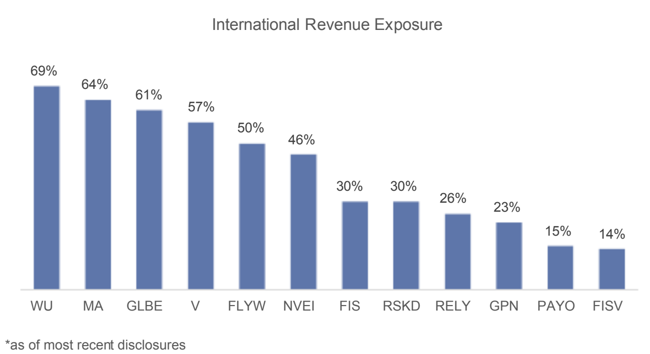
Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Choppy FX markets make for difficult print

Recent moves in foreign exchange markets have caused considerable impacts to revenues generated overseas. Within our coverage, we believe the large-cap acquirers (FIS, FISV, and GPN), networks (V and MA), remittance providers (WU and RELY), and smaller cap payments names (NVEI, GLBE, and FLYW) are most exposed to foreign exchange risks due to the geography of their customers and operations. Given the volatile swings in rates over the past few months, in Exhibit 11 we examined the potential impacts from FX on mgmt-provided FY22 guidance.

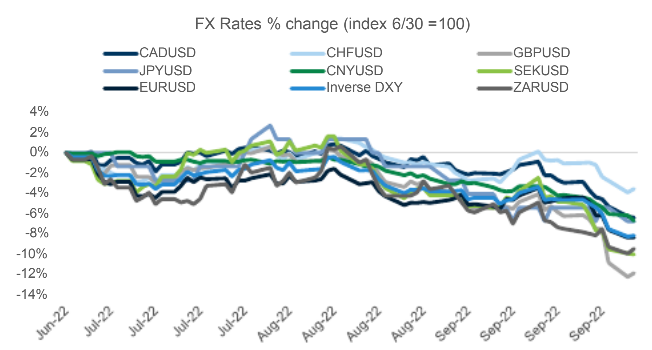
We first examined the geographical revenue exposure for the names mentioned above, creating a weighted FX impact following the timing of the most recent earnings. We then estimated the potential FX offsets/benefits in the expense base to walk our analysis down to company provided EBITDA and EPS impacts. It's important to note, however, that although geographical revenue disclosure is relatively consistent across names, we evaluated each company's geographical expense exposure on a name by name basis (leveraging mgmt commentary with our base case expense exposure equal to revenue). Putting it all together, we view FLYW and GLBE as most exposed to the recent FX moves (revenue/EBITDA), particularly given their significant U.K. exposure, which has shown some of the largest deterioration versus the USD.

Exhibit 9: Our coverage has a diverse set of international revenue exposures



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 10: The USD has continued to strengthen vs other major currencies over the past few months



Source: Bloomberg, Goldman Sachs Global Investment Research

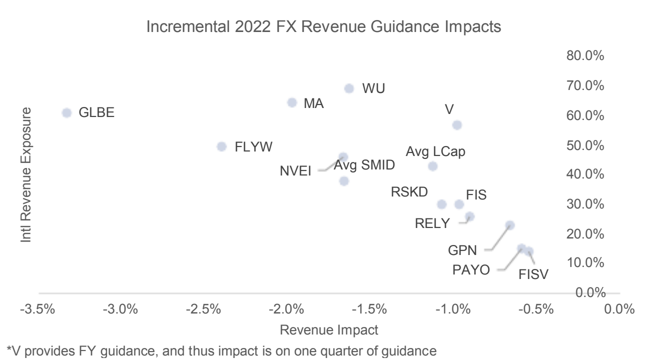
Exhibit 11: We expect currency fluctuations to drive incremental headwinds across our coverage

FX Impact to 2022 Guidance															
$mn unless noted otherwise		FIS	FISV	GPN	V	MA	WU	**Avg LCap**	GLBE	FLYW	NVEI	PAYO	RSKD	RELY	**Avg SMID**
Intl Revenue	Intl. Rev Exposure	30%	14%	23%	57%	64%	69%	**43%**	61%	50%	46%	15%	30%	26%	**38%**
	Intl. Rev	4,398	2,453	1,900	16,489	14,243	3,089	**7,095**	254	131	384	88	77	162	**183**
	Intl. Rev FX % Impact	-3.2%	-3.9%	-2.9%	-1.7%	-3.1%	-2.4%	**-2.9%**	-5.5%	-4.8%	-3.6%	-3.9%	-3.6%	-3.5%	**-4.2%**
Revenue	Guidance	14,658	17,524	8,300	29,017	22,094	4,462	**16,009**	416	265	835	585	257	628	**497**
	Incremental FX	-1.0%	-0.5%	-0.7%	-1.0%	-2.0%	-1.6%	**-1.1%**	-3.3%	-2.4%	-1.7%	-0.6%	-1.1%	-0.9%	**-1.7%**
	Guide adj for FX	14,516	17,428	8,245	28,732	21,658	4,390	**15,828**	402	258	821	582	254	622	**490**
Expenses	Implied Guidance	9,610	12,137	5,009	9,311	9,532	3,642	**8,207**	373	250	493	553	312	660	**440**
	Incremental FX	-0.9%	-0.5%	-0.7%	-1.0%	-1.8%	-1.7%	**-1.1%**	-3.6%	-2.2%	-1.7%	-2.4%	-1.1%	-0.9%	**-2.0%**
	Guide adj for FX	9,521	12,082	4,976	9,214	9,361	3,581	**8,122**	359	244	484	539	309	654	**431**
EBITDA	Guidance	-	-	-	-	-	-	-	43.50	15.00	342.50	32.50	-55.50	-32.50	**57.58**
	Incremental FX	-	-	-	-	-	-	-	-1%	-5%	-2%	31%	1%	1%	**4%**
	Guide adj for FX	-	-	-	-	-	-	-	43.24	14.20	337.13	42.54	-54.93	-32.24	**58.32**
EPS	Guidance	7.05	6.50	9.47	7.47	10.34	1.80	**7.10**	-	-	-	-	-	-	-
	Incremental FX	-1.04%	-0.50%	-0.76%	-1.57%	-2.19%	-1.45%	**-1.25%**	-	-	-	-	-	-	-
	Guide adj for FX	6.98	6.47	9.39	7.35	10.11	1.77	**7.01**	-	-	-	-	-	-	-
	Est '23 Revenue Headwind	-1.5%	-0.8%	-1.3%	-3.0%	-3.2%	-2.7%	**-2.1%**	-4.0%	-2.8%	-2.6%	-0.8%	-1.6%	-1.2%	**-2.2%**

*V provides FY guidance, and thus impact is on only one quarter of guidance, may exclude impacts from intraquarter hedging activities, estimates for cost pass through

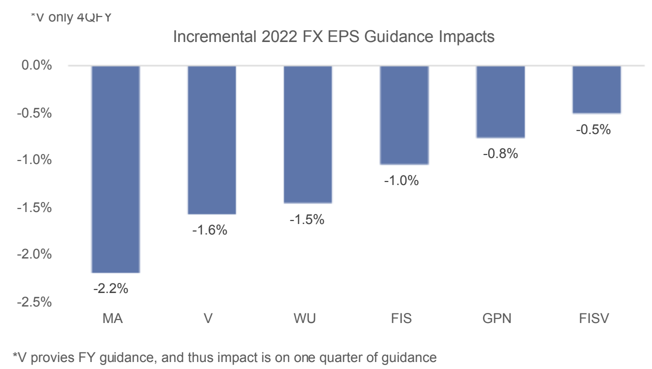
Source: Company data, Goldman Sachs Global Investment Research, Bloomberg

Exhibit 12: Across our coverage, we believe GLBE and FLYW are most exposed to FX revisions to 2022 guidance



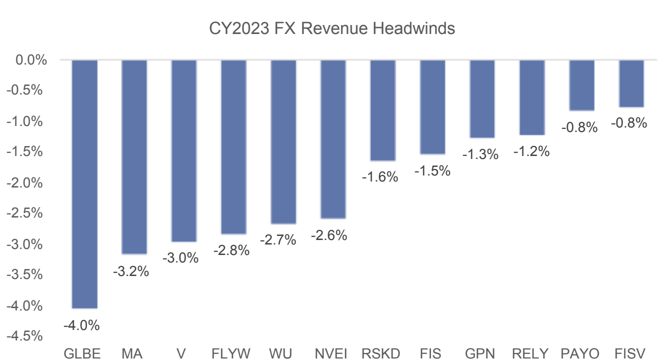
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 13: Across larger cap names, we see negative effects from FX



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 14: If FX rates remain stagnant through next year, we would expect roughly 100 to 500bps of headwinds across our coverage



Source: Company data, Goldman Sachs Global Investment Research

Card networks and acquirers

V/MA: Expect solid top-line trends as a result of higher cross-border travel volumes

V: We are positive on V heading into the quarter, as we believe underperformance relative to the broader market underappreciates the resilience of the business in prior macro downturns and tailwinds related to elevated FX volatility and inflation in the current environment. In addition, operational metrics from Visa's recent intra-quarter update indicated August trends were mostly consistent with management commentary F3Q results, but with a modest deceleration in US volume indexed to 2019 levels (yoy growth was flat vs. July) and US e-commerce spending (ex-travel) in particular (down 6ppts indexed to 2019 levels in August vs. July), which we think were largely expected. While we expect fairly limited surprises in terms of the quarter, we acknowledge the high degree of uncertainty in the market, leading investors to question whether V will give a full-year guide for FY23. Overall, we believe sentiment is a bit challenged right now, with the stock underperforming in 3Q (-10% vs S&P -5%) and with Street numbers likely needing to absorb incremental FX headwinds, the recovery in cross border likely dependent on the relaxation of COVID restrictions in China and Japan, and the U.S. inbound corridor returning to full strength (unlikely in near term given strong dollar), and currency volatility remaining elevated and likely a source of downside if the volatility environment eases, we believe investors are struggling with a lack of upside catalysts in the near term. However, with shares trading at 24x CY2023E EPS and EPS growth likely to remain in the double digits, we now see this as an excellent entry point for longer term shareholders to leg into a double-digit compounder below historical valuation levels.

We update our 12-month price target for V to $267 (from $283) based on a 29x Q5-Q8 P/E multiple on our updated estimates (30x previously, as we mark to market for changes in peer multiples).

MA: We expect MA to be fairly resilient in the current environment, although we do expect some slight differential impact on numbers versus V as a result of the higher international skew to the business and greater headwinds from FX. In our updated estimates, we expect the incremental FX on revenues impact to be about ~7.5% for 3Q22 and ~3.4% impact for 2023. However, we believe the elevated currency volatility should help to offset this to some degree in the near term. The card networks have also commented on the relative health of consumer spending, which has been a point of investor concern more broadly.

We update our 12-month price target for MA to $425 (from $465) based on a 32x Q5-Q8 P/E multiple on our updated estimates (33x previously, as we mark to market for changes in peer multiples).

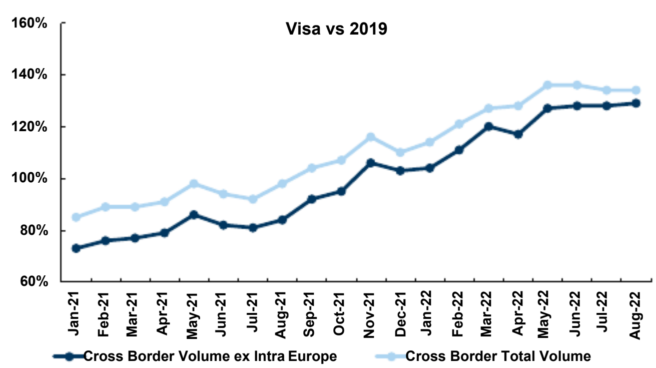
Exhibit 15: Visa Operational Metrics Summary

Metrics YoY	Apr-22	May-22	Jun-22	2Q22	Jul-22	Aug-22	Sep-22E	C3Q22 Implied	Cons. C3Q22
Total US Volume	13%	12%	11%	**12%**	11%	11%	*11%*	*11%*	*12%*
US Credit	26%	21%	17%	**21%**	16%	17%	*17%*	*17%*	*17%*
US Debit	4%	4%	4%	**4%**	6%	7%	*7%*	*7%*	*6%*
XB Volume ex Intra Europe	47%	45%	52%	**48%**	58%	51%	*51%*	*53%*	
XB Total Volume	41%	36%	43%	**40%**	45%	36%	*36%*	*39%*	
Processed Txns	18%	17%	13%	**16%**	13%	12%	*12%*	*12%*	*13%*
US Card Present	14%	14%	14%	**14%**	11%	11%	*11%*	*11%*	
US Card Not Present	13%	10%	13%	**12%**	11%	13%	*13%*	*12%*	
US Card Not Present ex Travel	9%	6%	10%	**8%**	9%	9%	*9%*	*9%*	
Cross Border CP + CNP Travel (XB Travel)	124%	139%	122%	**128%**	110%	98%	*98%*	*102%*	
Cross Border CNP	27%	19%	32%	**26%**	32%	30%	*30%*	*31%*	
Cross Border CNP ex Travel (XB eCom)	7%	-1%	10%	**5%**	12%	10%	*10%*	*11%*	

Metrics vs 2019	Apr-22	May-22	Jun-22	2Q22	Jul-22	Aug-22	Sep-22E	C3Q22 Implied	Cons. C3Q22
Total US Volume	148%	145%	146%	**146%**	147%	144%	*144%*	*145%*	*145%*
US Credit	140%	135%	140%	**138%**	138%	136%	*136%*	*137%*	*137%*
US Debit	157%	154%	154%	**155%**	157%	154%	*154%*	*155%*	*152%*
XB Volume ex Intra Europe	117%	127%	128%	**124%**	128%	129%	*129%*	*129%*	
XB Total Volume	128%	136%	136%	**133%**	134%	134%	*134%*	*134%*	
Processed Txns	138%	140%	139%	**139%**	140%	140%	*140%*	*140%*	*140%*
US Card Present	125%	128%	127%	**127%**	128%	127%	*127%*	*127%*	
US Card Not Present	169%	159%	163%	**164%**	164%	160%	*160%*	*161%*	
US Card Not Present ex Travel	177%	166%	170%	**171%**	171%	165%	*165%*	*167%*	
Cross Border CP + CNP Travel (XB Travel)	92%	108%	112%	**104%**	115%	115%	*115%*	*115%*	
Cross Border CNP	141%	140%	144%	**142%**	142%	142%	*142%*	*142%*	
Cross Border CNP ex Travel (XB eCom)	166%	159%	161%	**162%**	157%	156%	*156%*	*156%*	

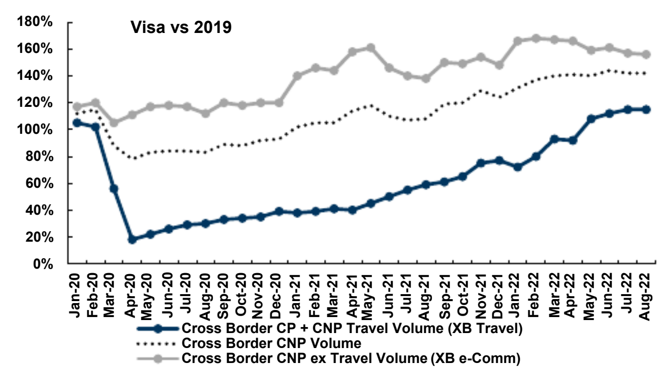
Source: Visible Alpha Consensus Data, Company data, Goldman Sachs Global Investment Research

Exhibit 16: The cross-border recovery has stalled in recent months



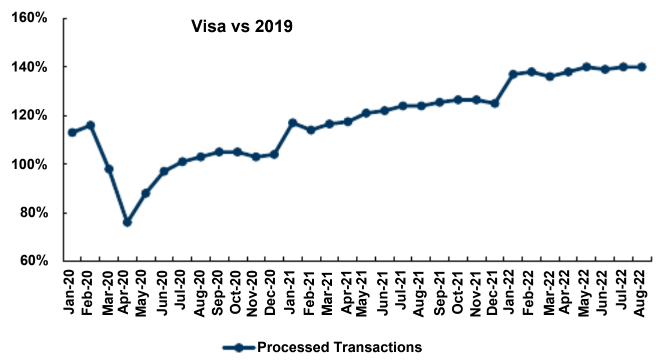
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 17: Modest improvements in cross-border travel in 3Q were offset by normalization in cross border e-comm



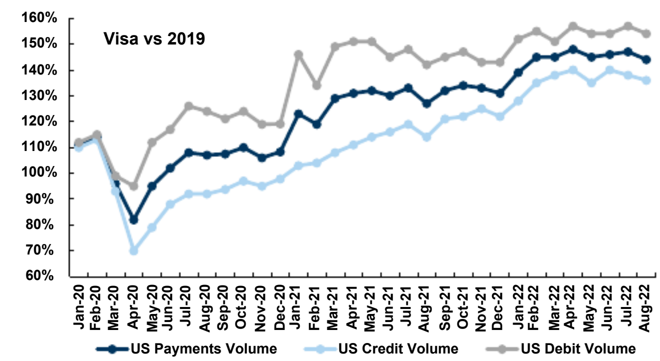
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 18: Growth in processed transactions has been relatively stable



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 19: US volume growth trends remained relatively stable in 3Q



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 20: Currency volatilty has continued to rise YTD

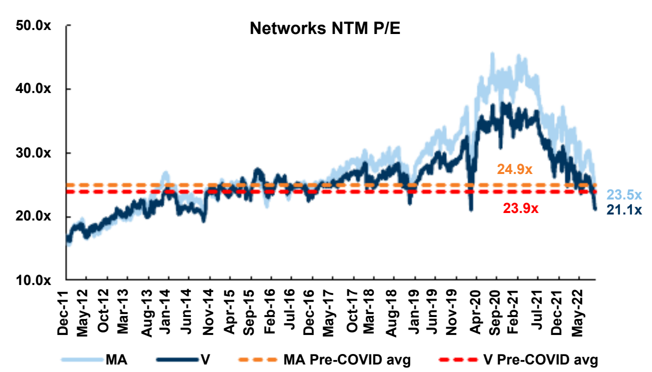
Source: Bloomberg

Exhibit 21: We expect V to have more UK exposure than MA
2022 estimates

	UK	World	% Exposure
Payment Volume ($, bns)			
Visa	$987	$11,206	8.8%
Mastercard	$164	$6,533	2.5%
Cards Outstanding (mns)			
Visa	119	3,436	3.5%
Mastercard	49	2,680	1.8%

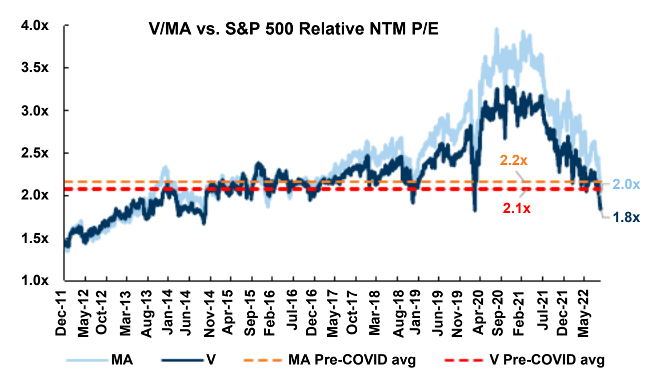
Source: Euromonitor, Goldman Sachs Global Investment Research

Exhibit 22: V/MA currently trade at a 2.8x/1.4x discount on NTM P/E relative to their pre-COVID historical averages



Source: FactSet

Exhibit 23: V/MA trade at 1.8x/2x the S&P 500 NTM P/E multiple, or below their pre-COVID historical averages of 2.1x/2.2x, respectively



Source: FactSet

Exhibit 24: Based on Visa's intra-quarter operational update, we expect a largely in-line quarter inclusive of a roughy -5%/-8% impact from FX

Potential revenue implications from Visa's intra-quarter operational update

Visa *$ mn, unless noted; Calendar Year*	3Q21	4Q21	1Q22	2Q22	3Q22E	*Cons*	*GS v Cons*
Prior quarter GPV, $ bn	$2,720	$2,785	$2,961	$2,775	$2,938	$2,941	0%
% Growth, YoY	39%	19%	20%	15%	8%	8%	-10 bps
Take rate, bps	11.5bps	11.5bps	11.9bps	11.5bps	11.5bps	11.5bps	0.0bps
Card Services	**$3,125**	**$3,193**	**$3,521**	**$3,189**	**$3,371**	**$3,371**	**0%**
Processed Transactions, mns	45,315	47,558	44,807	49,279	50,904	51,038	0%
% Growth, YoY	21%	21%	19%	16%	12%	13%	-30bps
Revenue per transaction	$0.076	$0.076	$0.078	$0.073	$0.073	$0.072	2%
Data Processing	**$3,436**	**$3,614**	**$3,480**	**$3,579**	**$3,708**	**$3,662**	**1%**
X-border GPV ex-intra Europe	46%	51%	47%	48%	53%	52%	183bps
Change in take rate	-5%	-1%	1%	3%	-10%	-9%	-40bps
Int'l transaction fees, % YoY	41%	50%	48%	51%	44%	42%	143bps
International transaction fees	**$1,895**	**$2,174**	**$2,208**	**$2,560**	**$2,723**	**$2,689**	**1%**
% Growth, YoY	41%	50%	48%	51%	44%	42%	177bps
Other Revenue	490	449	474	517	567	567	0%
Gross Revenue	**$8,946**	**$9,430**	**$9,683**	**$9,845**	**$10,368**	**$10,285**	**1%**
Incentives	(2,387)	(2,371)	(2,494)	(2,570)	(2,747)	(2,733)	1%
% of Gross Revenue	-26.7%	-25.1%	-25.8%	-26.1%	-26.5%	-26.6%	0bps
Net Revenue	**$6,559**	**$7,059**	**$7,189**	**$7,275**	**$7,620**	**$7,576**	**1%**
% Growth, YoY	29%	24%	25%	19%	16%	16%	67bps
% FX Impact	3%	-1%	-1%	-3%	-5%		
% Growth, YoY CC	26%	25%	26%	21%	21%		

Mastercard *$ mn, unless noted*	3Q21	4Q21	1Q22	2Q22	3Q22E	*Cons*	*GS v Cons*	Notes
Current quarter GPV, $ bn	$1,547	$1,660	$1,520	$1,650	$1,657	$1,694	-2%	V: Actual C2Q22 volume
% Growth, yoy	25%	25%	17%	12%	7%	10%	-237 bps	MA: -2% spread vs. txn growth, in-line with 6-qtr avg
Current quarter take rate	13.8bps	13.0bps	14.0bps	13.8bps	13.7bps	13.7bps	0.0bps	Consensus
Domestic Assessments	**2139**	**2165**	**2135**	**2283**	**2270**	**2320**	**-2%**	
Switched Transactions, mns	29,718	31,371	28,958	30,411	32,433	32,576	0%	V: Operational update summary
% Growth, YoY	25%	27%	22%	12%	9%	10%	-48bps	MA: % Change in YoY growth vs. 2Q consistent w/ V
Revenue per transaction	$0.096	$0.095	$0.101	$0.101	$0.096	$0.096	0%	Consensus
Transaction Processing	**2849**	**2987**	**2912**	**3061**	**3121**	**3135**	**0%**	
		-5%	-2%	-2%	-13%			
X-border GPV ex-intra Europe	60%	63%	56%	58%	63%			V: Operational update; MA: same qoq change as V
Change in take rate	1%	-4%	-6%	-8%	-21%			V: Consensus; MA: same qoq change as V
X-border volume fees, % YoY	61%	59%	50%	50%	43%	35%		
Cross-border Volume fees	**$1,276**	**$1,380**	**$1,395**	**$1,615**	**$1,822**	**$1,723**	**6%**	
% Growth, YoY	61%	59%	50%	50%	43%	35%	779bps	
Other Revenue	1,562	1,840	1,584	1,745	1,791	1,791	0%	Consensus
Gross Revenue	**$7,826**	**$8,372**	**$8,026**	**$8,704**	**$9,005**	**$8,969**	**0%**	
Rebates & Incentives	(2,841)	(3,156)	(2,890)	(3,213)	(3,311)	(3,298)	0%	V: % of Gross Revenue at midpoint of guidance
% of Gross Revenue	-36.3%	-37.7%	-36.0%	-36.9%	-36.8%	-36.8%	0bps	MA: Consensus
Net Revenue	**$4,985**	**$5,216**	**$5,136**	**$5,491**	**$5,694**	**$5,670**	**0%**	
% Growth, YoY	30%	27%	24%	21%	14%	14%	47bps	
% FX Impact	1%	-1%	-3%	-6%	-8%			3Q22E based on GSe
% Growth, YoY CC	29%	28%	27%	27%	22%			

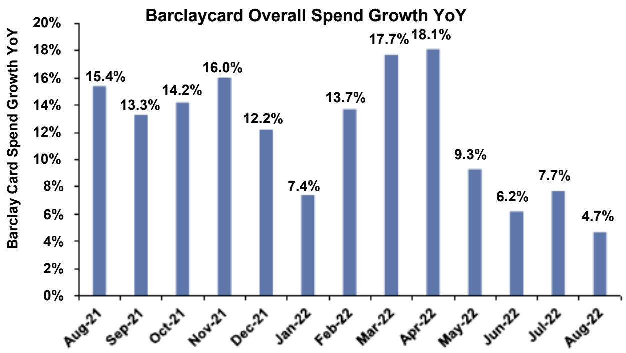
Source: Visible Alpha Consensus Data, Company data, Goldman Sachs Global Investment Research

FIS: Making the transition to more transparent and attainable guidance could require an expectations reset

FIS: We are somewhat cautious into the print, as we believe FIS is likely to see some macro-driven weakness from its exposure to regions such as the UK as well as the higher interest rate environment. However given the valuation and investor negativity around fundamentals, we do think the bar is relatively low here and would not expect meaningful underperformance on UK, FX, and interest rate driven headwinds. Additionally, as we noted in our recent takeaways note, we believe management commentary around transitioning to more attainable and transparent guidance could require a reset in expectations. In the near term, we expect the focus to be on 1) aligning 2023 interest expense expectations to a $600mn+ number, 2) tempering expectations for 2023 buybacks to the ~$5bn range and 3) pointing towards higher core D&A expense in the 8.5% of revenue range. Beyond some of these near-term dynamics, we believe management could look to re-evaluate its long term targets (see deep dive below) for top line growth and margin expansion in the coming quarters as the company brings in a new set of eyes into the CFO seat and with Street expectations towards the lower end of its current targets. In particular, we believe the market is skeptical on 1) the company's ability to deliver on HSD growth in banking revenues given current results are benefiting from inflation and elevated technology demand from banks in the wake of the pandemic and 2) the ability to keep pace with the broader market in merchant, where the company's has underperformed peers and the market, and has increasingly pointed towards share loss dynamics in its SMB business.

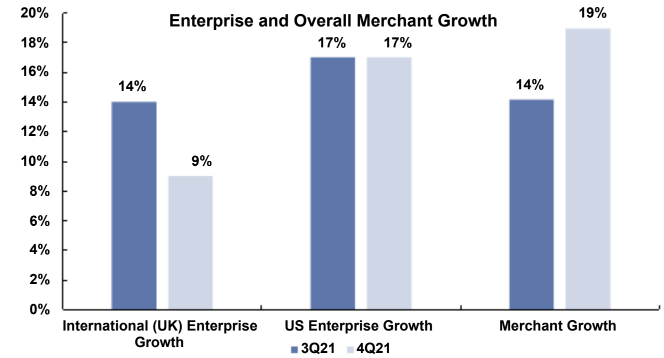
We update our 12-month price target for FIS to $114 (from $110) based on a ~15x Q5-Q8 P/E multiple on our updated estimates(~14x previously, as we align multiples with peers).

Exhibit 25: Barclaycard data implies a slowdown in UK spending



Source: Barclays, FactSet

Exhibit 26: Despite UK weakness in 4Q21, the merchant segment overall outperformed



Source: Company data, Goldman Sachs Global Investment Research

FIS Deep Dive: We believe ~7% revenue growth and ~50bps margin expansion is achievable, and SOTP points towards 38% upside to valuation

Given the focus on the company's long-term targets and performance, we have included a deeper dive into FIS's business to understand growth and margin dynamics at the segment level and the ramifications for overall valuation. Based on our analysis, we continue to view current valuation as highly attractive, even with a slightly lower growth rate, as our bottom up analysis suggests the company should deliver ~7% top-line growth and margin expansion in the ~50bps range. This should lead to EPS growth remaining in the double digits, which we believe should support a higher multiple than the current 10.6x our 2023 EPS estimate. This is further supported by a SOTP framework, which points towards 38% upside to the current share price. Thus, we remain Buy rated and continue to expect solid bottom line growth and free cash flow. If the company can re-position its outlook towards more achievable expectations, we believe the valuation gap versus FISV should narrow and lead to shares outperforming.

Merchant: Our bottom up build points to volume growth of ~7%, revenue growth of ~8-9%, with margin expansion of ~50-60bps.

Banking: Our bottom up build shows revenue growth of ~5%, with margin expansion between ~5-20bps.

Capital Markets: Our bottom up build shows revenue growth of ~7-8% with margin expansion around ~80-90bps.

All in all, this implies ~7% top-line growth and ~50bps of margin expansion going forward.

Merchant: Expect top-line growth to lag industry, weighed down by SMB and high enterprise concentration, but see healthy margin expansion given lower SMB incremental

To better understand drivers of growth in the merchant segment we built a bottom-up forecast of volume by segment, with approximate take rates. Our bottom up build implies growth of ~8-9% for the merchant segment, which compares to 9%/10% growth on average over 2023-2025 for comparable segments at FISV/GPN (using Visible Alpha consensus). We see above-market growth in e-commerce as a driver of high single digit revenue growth for the overall segment, with slower growth in the low yield enterprise segment contributing to slightly higher take rates from mix shift. However, our estimates do show FIS slightly underperforming network volumes into the out-years.

For our growth assumptions, we based the e-commerce sub-segment on management commentary about growth slightly faster than market growth for e-commerce, which is in the mid teens. We assumed GDP-like growth in enterprise given fairly long term contracts with large, mature businesses in diversified end markets. We use lower growth assumptions for SMB given management commentary on competitiveness in the space as well as share losses.

Our take rate assumptions are based on management commentary for higher yields in the SMB sub-segment (~60-70bps ballpark range), while enterprise yield is based on single digit cents per transaction, with assumed transaction size between ~$30-$50. Lastly, management has commented that e-commerce yields are between SMB and enterprise, and we believe are bolstered by higher take rates in the company's exposure to airlines. We back-tested from these assumed take rates and company revenue disclosures by segment in 2021 to come to base year volume estimates for 2021, and used our growth rate assumptions for volume forecasts in the following years, with take rates held constant.

Putting it all together, we see ~7% volume growth, with the impact from mix shift towards higher-yielding e-commerce and away from lower yielding enterprise putting modest upwards pressure on yields and driving revenue growth of ~8-9%.

Exhibit 27: Based on our bottom up build, we believe FIS's Merchant segment is likely to grow ~8-9%

Merchant Services Revenue Growth and Yield Analysis	2022	2023	2024	2025
Total Volume	$2,225	$2,388	$2,559	$2,748
% Of Total Volume				
SMB	9%	9%	9%	9%
E-commerce	18%	19%	21%	22%
Enterprise	74%	72%	71%	69%
Volume Growth Rate				
SMB		6%	6%	6%
E-commerce		16%	16%	16%
Enterprise		5%	5%	5%
Total Volume Growth		7%	7%	7%
Take Rate				
SMB	75.0bps	75.0bps	75.0bps	75.0bps
E-commerce	35.0bps	35.0bps	35.0bps	35.0bps
Enterprise	15.0bps	15.0bps	15.0bps	15.0bps
Total Take Rate	23.9bps	24.1bps	24.3bps	24.6bps
Revenue				
SMB	$1,474	$1,562	$1,656	$1,755
E-commerce	$1,376	$1,596	$1,851	$2,148
Enterprise	$2,462	$2,585	$2,715	$2,850
Total Revenue	$5,312	$5,743	$6,222	$6,753
Revenue Growth		8.1%	8.3%	8.5%

Source: Goldman Sachs Global Investment Research

From a margin standpoint, we believe FIS should see relatively strong expansion as a result of mix shift towards higher margin e-commerce and enterprise. Following our bottom up build to revenue growth for the merchant segment, we look to see what margin expansion will look like in this segment given the varying incremental margin profile of these businesses. We flex EBITDA margins for each business segment to understand how incremental margins by revenue line could influence EBITDA in out years. Our margin estimates are highest for enterprise, where the volume per contract is higher, with a higher portion of fixed costs. We expect SMB to have the lowest margins, driven by 3rd party commission costs that dilute the gross margin profile of this volume. We expect e-Commerce to be on the higher side of margin as well, more inline with the enterprise segment, since scaling additional contracts online requires little additional expense, but onboarding new merchants may incur some integration costs. Based on higher incremental margins in the e-commerce business, we expect the mix shift of revenue towards e-commerce to be beneficial for merchant. We also assume some additional cost from the Payrix acquisition and a 2% expense headwind from inflation YoY. **Putting it all together, we come to ~50bps margin expansion going forward.**

Exhibit 28: Merchant incremental margin analysis by subsegment supports ~50-60bps of margin expansion YoY in outyears

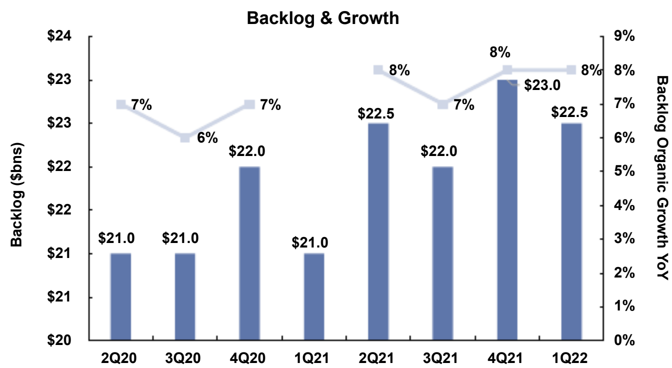
Merchant Services Margin Analysis	2021	2022E	2023E	2024E	2025E
Revenue					
Software-led SMB	$1,259	$1,474	$1,562	$1,656	$1,755
Enterprise	$2,024	$2,462	$2,585	$2,715	$2,850
Global eCommerce	$1,214	$1,376	$1,596	$1,851	$2,148
Total	$4,497	$5,312	$5,743	$6,222	$6,753
Revenue Growth					
Software-led SMB		17%	6%	6%	6%
Enterprise		22%	5%	5%	5%
Global eCommerce		13%	16%	16%	16%
Total		18.1%	8.1%	8.3%	8.5%
Implied Incremental Margin					
Software-led SMB		*40.0%*	*40.0%*	*40.0%*	*40.0%*
Enterprise		*90.0%*	*90.0%*	*90.0%*	*90.0%*
Global eCommerce		*70.0%*	*70.0%*	*70.0%*	*70.0%*
Implied Incremental Expenses					
Software-led SMB		$129	$53	$56	$60
Enterprise		$44	$12	$13	$14
Global eCommerce		$48	$66	$77	$89
Other Expenses (Payrix/Inflation)		$195	$53	$57	$61
Implied EBITDA					
Segment Expenses	$2,235	$2,651	$2,835	$3,038	$3,261
Consolidated Incremental Margin		49.0%	57.3%	57.7%	58.1%
Segment EBITDA	$2,262	$2,661	$2,908	$3,184	$3,492
Estimated EBITDA Margin					
Total	50.3%	50.1%	50.6%	51.2%	51.7%
Margin Expansion		-20bps	54bps	54bps	54bps

Source: Company data, Goldman Sachs Global Investment Research

Banking: We believe 5-6% growth in banking is achievable, but see MBP related investment spending and inflation driving lower margin expansion

We repeated a similar bottom up build and margin analysis on the banking portion of the business, using flatter margins in the banking segment. For banking, we assumed steady growth in recurring revenues, somewhat below the growth in FIS's backlog, to account for elevated demand currently. For our incremental margin assumptions, We assume lower incremental margins in the core business to account for the build out of MBP, trending towards more mature software margins over time. We believe software maintenance will be on the lower margin side as expenses for customer service and development costs will likely be associated with the maintenance line. We expect software license revenues to be extremely high margin, as very little incremental cost has to be associated with the sale of a software license. We expect professional services to be low margin as revenue in this portion is likely associated with high labor costs. We assume 100% incremental margins for other non-recurring in banking as we expect this portion to be largely driven by termination fees. Lastly, given the build out of the MBP platform and company commentary on cost inflation, we also incorporate 2% inflation into this calculation – while inflation could be higher than what we present, we are also not explicitly building in anything for top line inflation escalators, and our goal in this exercise is more to size up what outyear performance could look like in a more normal environment. **All together, this contributes to relatively flat margins, with margin expansion ranging from ~5-20bps in the next few years, driven mainly by growth in transaction processing.**

Exhibit 29: Backlog (ex Merchant) supports our mid-to-high single-digit growth rate assumptions in the fintech segments of FIS



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 30: Banking Segment margin analysis shows less margin improvement than the other segments

Banking Revenue Growth and Margin Analysis	2019	2020	2021	2022E	2023E	2024E	2025E
Revenue							
Transaction processing and services	$4,056	$4,443	$4,778	$5,105	$5,438	$5,787	$6,158
Software maintenance	$360	$352	$359	$349	$336	$324	$312
Other recurring	$177	$165	$170	$208	$223	$239	$256
Total Recurring	**$4,593**	**$4,960**	**$5,307**	**$5,662**	**$5,997**	**$6,350**	**$6,726**
Software license	$150	$89	$129	$134	$135	$135	$136
Professional services	$581	$605	$591	$602	$624	$648	$672
Other non-recurring fees	$268	$290	$369	$371	$378	$386	$394
Total Non-recurring	**$999**	**$984**	**$1,089**	**$1,108**	**$1,137**	**$1,169**	**$1,201**
Total	**$5,592**	**$5,944**	**$6,396**	**$6,769**	**$7,135**	**$7,519**	**$7,927**
Revenue Growth							
Transaction processing and services		10%	8%	7%	7%	6%	6%
Software maintenance		-2%	2%	-3%	-4%	-4%	-4%
Other recurring		-7%	3%	23%	7%	7%	7%
Total Recurring		8%	7%	7%	6%	6%	6%
Software license		-41%	45%	4%	0%	0%	0%
Professional services		4%	-2%	2%	4%	4%	4%
Other non-recurring fees		8%	27%	1%	2%	2%	2%
Total Non-recurring		-2%	11%	2%	3%	3%	3%
Total		6.3%	7.6%	5.8%	5.4%	5.4%	5.4%
Implied Incremental Margin							
Total Recurring							
Transaction processing and services				65%	67%	69%	70%
Software maintenance				35%	35%	35%	35%
Other recurring				70%	70%	70%	70%
Total Non-recurring							
Software license				90%	90%	90%	90%
Professional services				25%	25%	25%	25%
Other non-recurring fees				100%	100%	100%	100%
Implied Incremental Expenses							
Transaction processing and services				$114	$110	$110	$111
Software maintenance				-$7	-$8	-$8	-$8
Other recurring				$11	$4	$5	$5
Total Recurring				**$119**	**$106**	**$107**	**$109**
Software license				$1	$0	$0	$0
Professional services				$9	$16	$18	$18
Other non-recurring fees				$0	$0	$0	$0
Total Non-recurring				**$9**	**$16**	**$18**	**$18**
Other Investments in Business/Inflation				**$70**	**$74**	**$78**	**$82**
Total				**$199**	**$197**	**$203**	**$209**
Implied EBITDA							
Segment Expenses			$3,522	$3,720	$3,918	$4,120	$4,329
Consolidated Incremental Margin				46.8%	46.0%	47.2%	48.8%
Segment EBITDA			$2,874	$3,049	$3,217	$3,398	$3,598
Estimated EBITDA Margin							
Total			44.9%	45.0%	45.1%	45.2%	45.4%
Margin Expansion				10bps	5bps	11bps	18bps

Source: Company data, Goldman Sachs Global Investment Research

Capital Market: expect recent momentum to continue, aided by strong growth in recurring revenues with high incremental margins and lower levels of investment spending vs other segments

We also repeated the margin analysis for the capital markets portion of the business, assuming stable growth rates for recurring revenues. Our incremental margin assumptions followed similar rationale as the analogous line items within banking. We expect transaction processing and services to be relatively high margin due to scale, while software maintenance is lower as a result of the customer relationship management and development costs associated with the line item. We expect other recurring revenues to be between these lines, as it is likely based on revenue with some incremental expense associated. We expect software license to be relatively high margin as it only requires an initial sale but does not incur many other costs. We believe professional services is lower margin owing to the labor costs associated with the segment, and we expect other non-recurring to be fee based without high incremental cost. Given slightly higher growth rates in this segment, the shift towards more recurring revenues, and the lower levels of investment spending, we expect to see the greatest amount of operating leverage out of capital markets, or roughly 80-90bps of margin expansion.

Exhibit 31: While Capital Markets margin analysis supports ~80-90bps of margin expansion YoY

Capital Markets Revenue and Margin Analysis	2019	2020	2021	2022E	2023E	2024E	2025E
Revenue							
Transaction processing and services	$993	$1,091	$1,183	$1,320	$1,481	$1,664	$1,874
Software maintenance	$482	$493	$510	$516	$521	$528	$535
Other recurring	$106	$99	$96	$95	$95	$96	$96
Total Recurring	**$1,581**	**$1,683**	**$1,789**	**$1,932**	**$2,098**	**$2,288**	**$2,505**
Software license	$328	$328	$374	$297	$306	$315	$328
Professional services	$406	$427	$451	$453	$467	$481	$501
Other non-recurring fees	$3	$2	$10	$2	$3	$3	$3
Total Non-recurring	**$737**	**$757**	**$835**	**$752**	**$775**	**$800**	**$832**
Total	**$2,318**	**$2,440**	**$2,624**	**$2,684**	**$2,873**	**$3,087**	**$3,337**
Revenue Growth							
Transaction processing and services		10%	8%	12%	12%	12%	13%
Software maintenance		2%	3%	1%	1%	1%	1%
Other recurring		-7%	-3%	-1%	0%	0%	1%
Total Recurring		6%	6%	8%	9%	9%	10%
Software license		0%	14%	-21%	3%	3%	4%
Professional services		5%	6%	0%	3%	3%	4%
Other non-recurring fees		-33%	400%	-80%	36%	3%	4%
Total Non-recurring		3%	10%	-10%	3%	3%	4%
Total		5.3%	7.5%	2.3%	7.1%	7.5%	8.1%
Implied Incremental Margin							
Total Recurring							
Transaction processing and services				80%	80%	80%	80%
Software maintenance				35%	35%	35%	35%
Other recurring				60%	60%	60%	60%
Total Non-recurring							
Software license				70%	70%	70%	70%
Professional services				35%	35%	35%	35%
Other non-recurring fees				80%	80%	80%	80%
Implied Incremental Expenses							
Transaction processing and services				$27	$32	$37	$42
Software maintenance				$4	$3	$4	$5
Other recurring				$0	$0	$0	$0
Total Recurring				**$31**	**$36**	**$41**	**$47**
Software license				-$23	$3	$3	$4
Professional services				$1	$9	$10	$13
Other non-recurring fees				-$2	$0	$0	$0
Total Non-recurring				**-$23**	**$12**	**$13**	**$16**
Other Investments in Business/Inflation				**$27**	**$28**	**$29**	**$31**
Total				**$35**	**$75**	**$83**	**$94**
Implied EBITDA							
Segment Expenses			$1,354	$1,389	$1,464	$1,547	$1,641
Consolidated Incremental Margin				41.5%	60.3%	61.4%	62.2%
Segment EBITDA			$1,270	$1,294	$1,409	$1,541	$1,696
Estimated EBITDA Margin							
Total			48.4%	48.2%	49.0%	49.9%	50.8%
Margin Expansion				-15bps	80bps	86bps	92bps

Source: Company data, Goldman Sachs Global Investment Research

Putting it all together: We see 6-7% top-line growth and ~50bps of annual margin expansion

Overall, when combining all of our margin analysis outputs by segment into a consolidated build, we come to yearly margin expansion of around ~50-60bps, towards the lower end of FIS' mid-term guidance. However, we note that Street expectations are already at the low end of mid-term guidance, which we think supports the company potentially lowering the bar for themselves as they inform outlook into the next couple years. With that said, we still see double-digit EPS growth, and therefore think the stock is highly attractive at current valuations. Next, we use a sum-of-the-parts framework to support this conclusion, showing considerable upside to current prices.

Exhibit 32: Based on our margin analysis scenarios, we could see around ~50-60 bps of margin expansion in outyears

Total Consolidated Segments Margin Analysis Output	2021	2022	2023	2024	2025
Merchant	$4,497	$5,312	$5,743	$6,222	$6,753
Banking	$6,396	$6,769	$7,135	$7,519	$7,927
Capital Markets	$2,624	$2,684	$2,873	$3,087	$3,337
Corp & Other	$360	$264	$262	$259	$256
Total Revenue	**$13,877**	**$15,029**	**$16,013**	**$17,087**	**$18,273**
Implied EBITDA					
Merchant	$2,235	$2,651	$2,835	$3,038	$3,261
Banking	$3,522	$3,720	$3,918	$4,120	$4,329
Capital Markets	$1,354	$1,389	$1,464	$1,547	$1,641
Corp & Other	$647	$587	$595	$607	$628
Total Segment Expenses	$7,758	$8,347	$8,812	$9,312	$9,859
Total Segment EBITDA	**$6,119**	**$6,681**	**$7,201**	**$7,775**	**$8,414**
Revenue Growth					
Merchant		18.1%	8.1%	8.3%	8.5%
Banking		5.8%	5.4%	5.4%	5.4%
Capital Markets		2.3%	7.1%	7.5%	8.1%
Corp & Other		(26.7%)	(0.9%)	(0.9%)	(1.3%)
Total Revenue		**8.3%**	**6.5%**	**6.7%**	**6.9%**
EBITDA Growth					
Merchant		17.6%	9.3%	9.5%	9.7%
Banking		6.1%	5.5%	5.6%	5.9%
Capital Markets		1.9%	8.8%	9.4%	10.1%
Corp & Other		12.4%	3.1%	4.4%	7.0%
Total Segment EBITDA		**9.2%**	**7.8%**	**8.0%**	**8.2%**
Estimated EBITDA Margin					
Total	44.1%	44.5%	45.0%	45.5%	46.0%
Margin Expansion		37bps	51bps	53bps	54bps

Source: Company data, Goldman Sachs Global Investment Research

SOTP Valuation implies 38% upside to current valuation

We bring together our estimates for the segments of FIS in a sum-of-the-parts analysis where we apply multiples based on historical multiples for relevant peers. Because of the consolidation in the space that has made most peers today conglomerates of separate business rather than standalone pure plays, we rely on pre-covid multiples in our valuation work to differentiate between the various segments. Bringing it all together, we see a SOTP based valuation that implies 38% upside to the current share price, based on steady, strong growth in Merchant with margin expansion, and premium multiples for the defensive and sticky nature of the fintech segments.

Merchant: We believe investor sentiment has become more structurally negative but still see considerable value in these steady growth segments

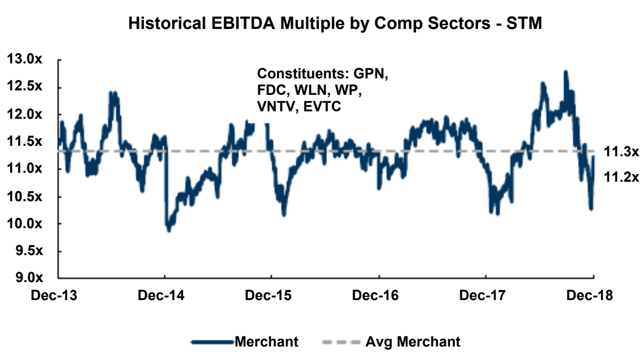
In valuing the merchant segment of FIS, we look at pre-2019 multiples of merchant processors to capture the standalone valuations in the space prior to industry consolidation. On an absolute basis, merchant comps traded at 11.3x (STM EV/EBITDA) on average, and at a ~20% premium relative to the S&P500. In our SOTP framework, we apply a discounted merchant multiple relative to the S&P 500 of 100% to reflect the increased competitive landscape in Merchant, as well as FIS's lower growth vs peers.

Exhibit 33: Merchant Solutions Historical Comp Sheet

		NTM EBITDA Multiples					STM EBITDA Multiples					NTM P/E Multiples					STM P/E Multiples				
Ticker	Name	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Merchant Solutions																					
GPN	Global Payments	13.5		12.1	14.6	13.4	12.3		10.7	13.2	12.1	19.3	20.3	16.6	21.2	17.0	17.2	18.1	14.4	18.4	14.7
FDC	First Data		12.6	11.2	11.4	10.5		11.7	10.6	10.7	9.8		11.9	9.5	10.9	10.6		10.1	8.7	9.9	9.3
WLN-FR	Worldline	5.4	10.8	10.4	13.8	10.8	4.9	9.3	9.0	12.4	9.5	17.1	23.5	23.7	29.6	27.5	15.2	21.0	20.5	25.0	22.8
WP-US	Worldpay	12.8	14.4	13.4	15.4	14.1	11.6	13.0	12.3	11.1	12.4	15.7	18.2	19.4	19.8	16.4	14.0	16.2	17.3	17.2	13.9
VNTV	Vantiv	12.8	14.4	13.4	15.4	14.1	11.6	13.0	12.3	11.1	12.4	15.7	18.2	19.4	19.8	16.4	14.0	16.2	17.3	17.2	13.9
EVTC	Evertec Inc	12.4	9.9	10.4	8.8	11.7	11.5	9.4	10.0	8.1	11.1	12.3	9.5	10.6	9.7	14.6	11.1	8.7	9.9	8.2	13.4
average		11x	12x	12x	13x	12x	10x	11x	11x	11x	11x	16x	17x	17x	19x	17x	14x	15x	15x	16x	15x

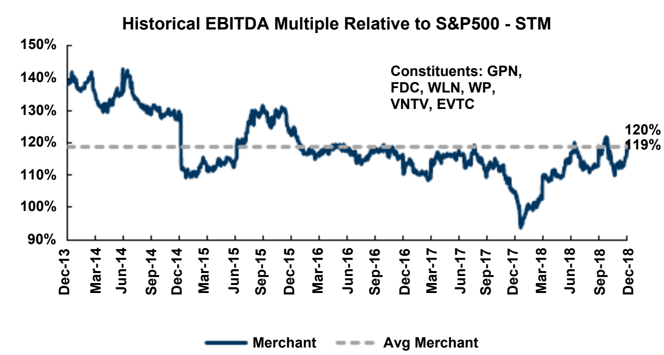
Source: Company data, Goldman Sachs Global Investment Research, FactSet

Exhibit 34: Historically, merchant comps traded at a 11.3x multiple on average



Source: FactSet

Exhibit 35: Relative to the S&P500, merchant comps historically traded at a premium



Source: FactSet

Banking/Capital Markets: highly defensive, sticky software businesses should command a premium multiple

In our valuation of the Banking and Capital Markets sectors, we once again focus on pre-2019 valuations to capture standalone valuations prior to more recent industry consolidation. We leverage a comp of pure play bank core processing and technology, as well as a broader comp set of enterprise software to form our comp set. We also look at the combination of Banking and Capital Markets combined, as we see the growth drivers and end market as similar. Historically, core processors have traded at a discount to other enterprise software companies, however, both have historically traded at a healthy premium to the market. We also note that FIS traded at a discount to FISV and JKHY over time. Presently, we find that the FIS's overall multiple has de-rated to the least common denominator, trading closer in line with our merchant valuation multiple, and the market doesn't seem to be attributing the same premium multiple to the software business as historically. Thus we apply a slightly discounted relative multiple vs history in our SOTP work. Additionally, we adjust for the fact that issuer processing is ~30% of the banking segment, and TSYS, the only public comp historically for issuer processing traded at a lower multiple relative to the bank technology comp set. We attribute this towards this business being more volumetric in nature vs the more recurring software revenue in the banking and capital markets business.

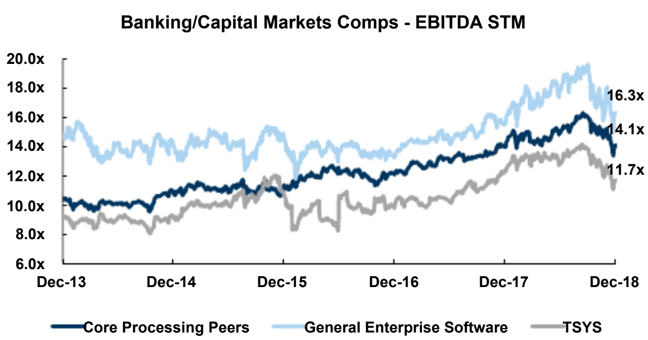
Exhibit 36: Banking and Capital Markets Historical Comp Sheet

		NTM EBITDA Multiples					STM EBITDA Multiples					NTM P/E Multiples					STM P/E Multiples				
Ticker	Name	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Banking/Capital Markets																					
Core Processing Peers																					
JKHY	Jack Henry	11.2	11.1	13.9	15.1	18.0	10.1	10.2		14.2	16.7	22.7	23.0	28.3	30.8	32.4	19.5	16.7	24.9	28.5	29.4
FISV	Fiserv	12.1	13.5	13.5	15.0	15.4	11.3	12.6	12.8	14.0	14.3	18.8	21.1	21.4	22.9	20.9	16.9	18.8	19.3	20.5	18.7
FIS	FIS	10.9	9.8	11.0	12.4	12.6	10.2	8.9	10.3	11.8	12.0	17.8	15.6	17.5	19.4	17.8	15.8	13.8	15.6	17.5	15.9
average		11x	11x	13x	14x	15x	11x	11x	12x	13x	14x	20x	20x	22x	24x	24x	17x	16x	20x	22x	21x
General Enterprise Software Comps																					
CRM	Salesforce	29.5	26.1	25.5	30.2	31.9	24.2	21.8	21.9	23.1	25.6	81.5	69.1	61.5	66.0	55.2	61.1	52.9	47.7	51.7	44.1
MSFT	Microsoft	8.6	8.5	9.8	11.9	14.2	8.0	7.8	8.8	10.7	12.5	14.5	15.3	17.8	20.8	24.4	13.2	13.8	15.8	18.3	21.0
ADBE	Adobe	20.9	20.9	17.5	22.5	25.7	15.7	16.9	14.4	19.2	21.9	35.6	32.5	26.8	33.0	31.5	23.0	24.6	21.3	27.4	26.2
ORCL	Oracle	9.8	9.1	10.5	9.9	10.8	9.6	8.9	10.0	9.2	10.7	14.4	14.4	16.0	13.9	13.4	13.5	13.3	14.7	12.8	12.5
INTU	Intuit	11.5	15.6	15.0	16.1	21.6	10.9	12.6	13.0	13.9	19.4	20.7	27.9	25.6	27.3	31.4	18.5	21.4	22.1	24.2	27.7
median		12x	16x	15x	16x	22x	11x	13x	13x	14x	19x	21x	28x	26x	27x	31x	18x	21x	21x	24x	26x
Issuer Processing																					
TSYS	Total System Services	6.8	7.8									12.7	12.6								
median - overall		11x	11x	14x	15x	17x	11x	11x	13x	14x	16x	19x	21x	23x	25x	28x	18x	18x	20x	22x	24x

Source Factset

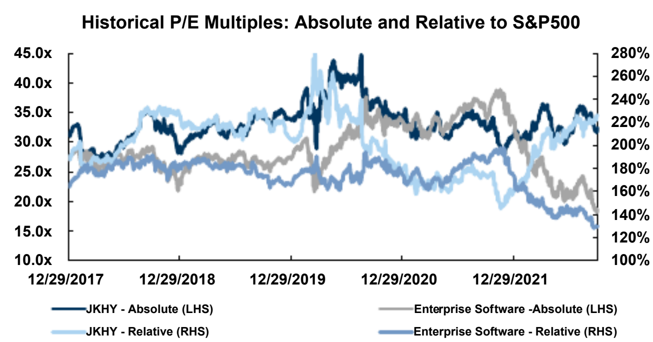
Source: Company data, Goldman Sachs Global Investment Research, FactSet

Exhibit 37: The core processing business historically traded at a discount to enterprise software, with Issuer processing (TSYS) trading at a deeper discount



Source: FactSet

Exhibit 38: JKHY, one of FIS's pure play peers, has generally traded at a premium (STM P/E) compared to general enterprise names both on an absolute and relative basis



Source: FactSet

Putting it all together, our SOTP value implies 38% upside to the current price

As seen in Exhibit 39, we have created a sum-of-the-parts analysis to evaluate each segment of the company on a standalone basis. We value each segment on an EV/EBITDA basis compared to historical comps, as present day peer valuations are impacted by industry consolidation. We look at the average historical multiple of each segment relative to the S&P 500 of the same time period, and apply this to the current S&P 500 multiple. We leverage relative multiples to account for the fact that market multiples have changed relative to pre-COVID, rather than anchoring off absolute multiples. Ultimately our SOTP value equates to ~$105 per share, implying 38% upside to 10/3's close.

Exhibit 39: Our SOTP analysis implies 38% upside to current stock price as of 10/3/22 close

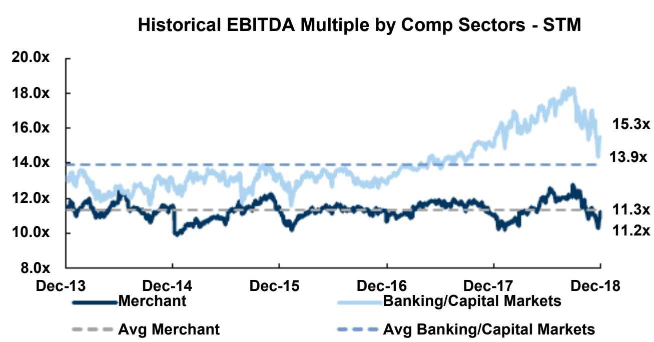
Sum of the Parts Analysis			
Historical STM Multiple			STM
Merchant Solutions		Merchant Solutions	
Average Historical Multiple	11.3x	Multiple	10.3x
Average Historical Relative Multiple	119%	EBITDA	2,811.6
Relative to S&P 500	100%	**EV**	**28,926**
Current S&P 500	10.3x	Banking/Capital Markets Solutions	
Multiple	10.3x	Banking EBITDA (ex-issuer)	1,968.1
		Issuer EBITDA	843.5
Banking/Capital Markets Solutions		Issuer as % of Banking	30%
Banking/Capital Markets		Capital Markets EBITDA	1,471.1
Average Historical Multiple*	13.1x	Banking/Capital Markets Multiple	13.4x
Average Historical Relative Multiple	145%	Issuer Multiple	10.3x
Relative to S&P 500	130%	**EV**	**54,676**
Current S&P 500	10.3x		
Multiple	13.4x	Total	
		SOTP Value	83,601
Issuer		Net Debt	20,340
Average Historical Multiple**	10.6x	Total MV	63,261
Average Historical Relative Multiple	110%	Shares	604.7
Relative to S&P 500	100%	**SOTP value per share**	**$105**
Current S&P 500	10.3x	Current	$76
Multiple	10.3x	Upside/downside	38%

*Banking/Capital Markets Multiple at 15% discount to historical multiple of peers

**Historical TSYS Multiple

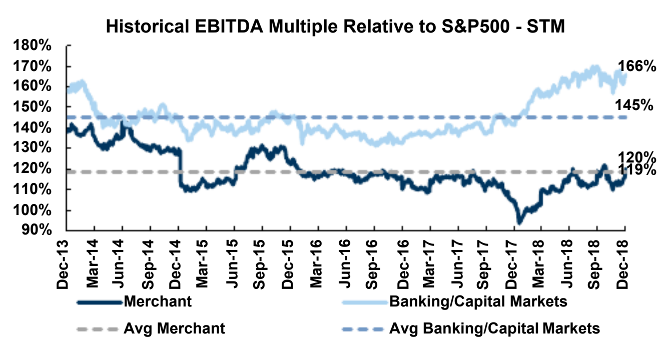
Source: Company data, Goldman Sachs Global Investment Research, FactSet

Exhibit 40: STM Historical EBITDA Multiples



Source: FactSet

Exhibit 41: STM Historical EBITDA Multiples Relative to S&P500



Source: FactSet

FISV: Heading into 3Q22 results, we see a slight top-line beat primarily driven by the Merchant segment and continued momentum for Clover in particular, which should drive revenue to outpace volume for another quarter (reflecting the mix shift towards Clover's more favorable economics). In addition, we believe FISV should be more insulated from FX headwinds and macro weakness in Europe relative to GPN and FIS, as more than 85% of FISV's revenue is attributable to the US. While we are largely positive on the top-line trajectory for FISV, we are more cautious on margins for the quarter, as the company has indicated that 2H22 margin expansion implied by full-year guidance is more weighted to 4Q22, after the company completes merger & integration (M&I) work related to First Data (FDC) during 3Q22. We believe the continuation of some FDC-related M&I costs could add some pressure to margins in 3Q22, which does not appear to be baked into consensus estimates for 2H22 margin expansion to be evenly distributed between 3Q and 4Q22. Combined with FISV's premium valuation at 15x 2023 P/E relative to FIS at 11x and GPN at 12x, we are relatively cautious on the set-up for FISV heading into 3Q22 results.

We update our 12-month price target for FISV to $118 ($110 previously) based on a ~15x Q5-Q8 P/E multiple (14x previously, as we align multiples with peers).

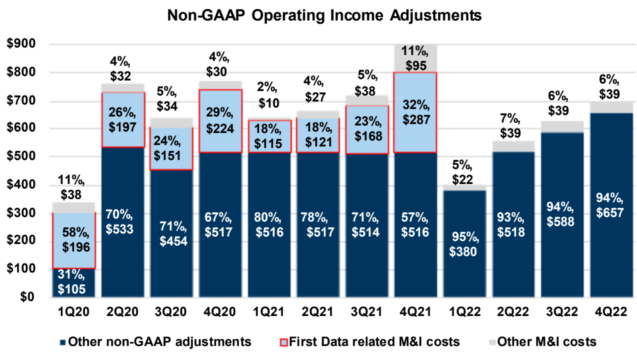
Exhibit 42: Our scenario sees merchant revenue growing 3-4% faster than volume, assuming a faster mix shift towards Clover vs. our base case

Merchant Revenue build	2019	2020	2021	2022E	2023E	2024E	2025E	Notes
Clover								
GPV, $ bn	$97	$117	$181	$235	$302	$383	$481	
% Growth, yoy		20%	55%	30%	29%	27%	26%	Assumes modest deceleration from 36.5% 2019-21 CAGR
Software & Services	$91	$106	$159	$259	$410	$620	$884	
% Penetration	11%	12%	12%	15%	19%	22%	25%	In-line with 2025 Software penetration for Clover
Payments	$576	$655	$956	$1,209	$1,508	$1,858	$2,260	
Net Take Rate, %	0.59%	0.56%	0.53%	0.52%	0.50%	0.49%	0.47%	
Hardware	$156	$162	$212	$258	$300	$340	$392	
Revenue, $ mn	$823	$924	$1,328	$1,726	$2,218	$2,817	$3,536	In-line with guidance for $3.5bn of Clover revenue by 2025
Take Rate, %	0.85%	0.79%	0.74%	0.74%	0.74%	0.74%	0.74%	
% Growth, yoy		12%	44%	30%	29%	27%	26%	
Rest of Merchant								
GPV, $ bn	$3,003	$2,820	$3,344	$3,611	$3,873	$4,125	$4,372	
% Growth, yoy		-6%	19%	8%	7%	7%	6%	
Adjusted Revenue, $ mn	$4,879	$4,478	$5,151	$5,563	$5,966	$6,354	$6,735	
Take Rate, %	0.16%	0.16%	0.15%	0.15%	0.15%	0.15%	0.15%	
% Growth, yoy		-8%	15%	8%	7%	6%	6%	
Consolidated Merchant								
GPV, $ bn	$3,100	$2,937	$3,524	$3,846	$4,175	$4,508	$4,853	Assumes 2020/21 GPV growth was in-line with revenue growth
% Growth, yoy		-5%	20%	9%	9%	8%	8%	
Adjusted Revenue, $ mn	$5,702	$5,402	$6,479	$7,289	$8,185	$9,172	$10,271	
Take Rate, %	0.18%	0.18%	0.18%	0.19%	0.20%	0.20%	0.21%	
% Growth, yoy	7%	-5%	20%	13%	12%	12%	12%	

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 43: FISV's 2H22E margin expansion is partly driven by lower merger & integration costs related to First Data (now included in adj OI)...

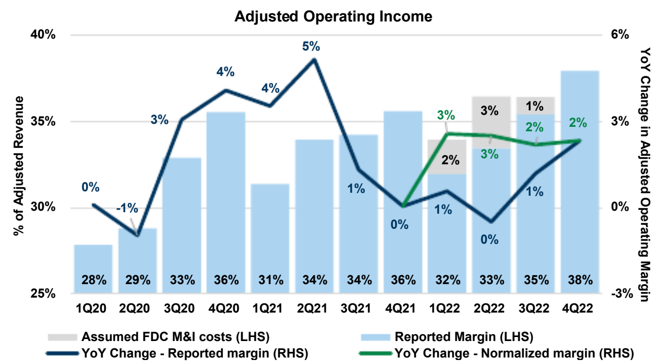
Non-GAAP operating income adjustments; 3Q/4Q data based on GS estimates



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 44: While reported 1H22 margins were mostly flat yoy, margins were up 2-3% excluding FDC-related M&I costs (historically excluded from adj OI)

M&I costs, % of revenue, & reported adjusted operating margin (LHS); YoY change in reported & normalized margin (excludes FDC-related M&I costs)

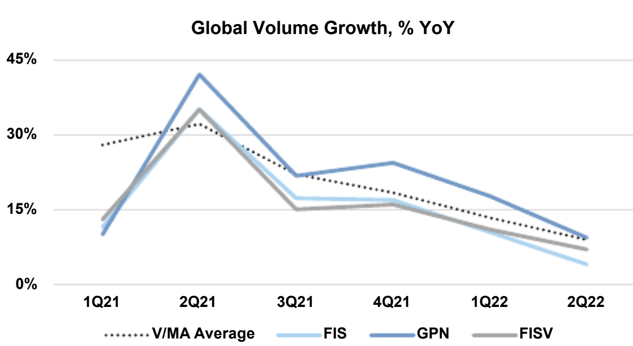


Source: Company data, Goldman Sachs Global Investment Research

GPN: Heading into the quarter we expect results to be relatively in line with expectations, with slightly lower margins as a result of FX pressures (which continue to flow in at roughly a 50% incremental margin). Contrary to some major competitors in the space, we see GPN relatively insulated from the effects of a rising interest rate environment, due to their debt skewing majority fixed. We believe investor focus will continue to be on 1) mgmt guidance through the end of the year, 2) the path of incremental margin expansion over time (guided up to 150bps), and 3) additional details on the pending EVO acquisition.

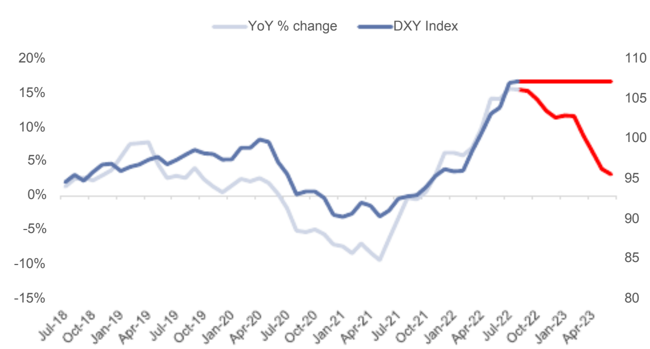
We maintain our 12-month price target for GPN at $149 based on a 13x Q5-Q8 P/E multiple on our updated estimates.

Exhibit 45: Over past few quarters, GPN's volume has tracked inline to above V/MA, with FIS/FISV falling below network growth



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 46: If USD Index were to be flat through the end of the year, dollar strength would be up roughly 13% through the end of the year



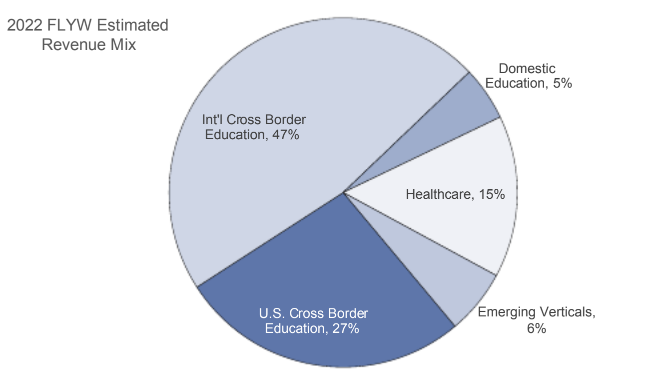
Source: Company data, Goldman Sachs Global Investment Research

FLYW: While FX headwinds are likely to weigh, we see an offset from WPM-related synergies

Heading into the quarter we expect a balanced set of results between WPM cross selling tail winds, where the company recently announced 20 universities have adopted FLYW for payments (we believe this could add a roughly 2% lift to 3Q revenues), and the FX driven headwinds, particularly in the U.K. (pound down ~11% since earnings), where we expect an incremental 2%-3% impact to revenue versus when the company gave guidance in early August. We believe FLYW offers an attractive mix of high growth and defensive end markets, as well as idiosyncratic sources of upside as a result of the deal related synergies from WPM, and while we expect FX to offset some of the strong momentum in the business, we remain highly positive on the name as a growth asset that should see limited macro related slow downs over the next year.

We maintain our FLYW 12-month price target at $32 based on an unchanged 11x EV/GP multiple on our Q9-Q12 estimates.

Exhibit 47: FLYW estimates international cross border revenue to reach nearly 50% of 2022 total revenue



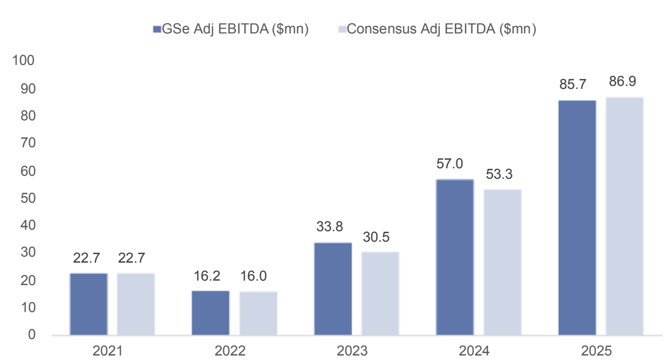
Source: Company data

Exhibit 48: We expect the recent acquisition of WPM could add up to 16% upside to our 2025 revenue estimates

% '25 Upside Revenu		Share of UK Education TPV				
		10%	13%	15%	18%	20%
Take Rate, %	1.0%	6%	7%	8%	10%	11%
	1.1%	6%	8%	9%	11%	12%
	1.2%	7%	8%	10%	12%	13%
	1.3%	7%	9%	11%	13%	15%
	1.4%	8%	10%	12%	14%	16%

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 49: We expect FLYW to expand EBITDA profitability throughout our forecast



Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Exhibit 50: Based on our sensitivity analysis, we expect cross-selling payments to WPM will contribute between 1%-4% to 3Q22 revenues

FLYW WPM Synergy Analysis							
U.K Education Payment Volume ($bn)	A	30	30	30	30	30	Company quoted EDU TAM
Est University % of volume	B	80%	80%	80%	80%	80%	Excluding non-higher ed
U.K University Payment Volume ($bn)	C = A*B	24	24	24	24	24	
U.K. Universities	D	165	165	165	165	165	
Current Cross Sell	E	20	20	20	20	20	Mgmt commentary
% penetration	F = E/D	12%	12%	12%	12%	12%	
Est. total potential volume ($bn)	G = F*C	2.91	2.91	2.91	2.91	2.91	
% international students	H	15%	19%	23%	26%	30%	Sensitized for % of students studying abroad
% international using FLYW	I	40%	48%	55%	63%	70%	Penetration of FLYW among intl students
Acquired volume ($bn)	J=G*H*I	0.17	0.26	0.36	0.48	0.61	
% monetization rate	K	1.50%	1.50%	1.50%	1.50%	1.50%	
Transaction Revenue ($mn)	**J*K**	**2.62**	**3.89**	**5.40**	**7.16**	**9.16**	
% 3Q21 Rev less Anc	-	1.1%	1.6%	2.2%	2.9%	3.7%	

*assumes no domestic

Source: Company data, Goldman Sachs Global Investment Research

PAYO: Our top pick in the space currently - Everyone else's headwinds are PAYO's tailwinds (rates, FX)

We are highly constructive on PAYO into 3Q earnings, as we believe the company's guidance should prove highly conservative around interest income (we expect ~53mn in 2022 with ~$4.4mn YTD) in the quarter, and expect the company's investment in B2B AP/AR solutions to continue to support revenue growth and uphold take rates despite a weak e-com environment. While broader e-commerce trends have been weak and the company is beginning to lap the impacts of the onboarding of eBay-related sellers, we expect this to be offset by the much easier comps in the back half of the year post last years deceleration in pandemic related spending as well as continued growth in B2B. Over time, we believe B2B will add upward pressure to take rates as it becomes a larger part of the mix, and that in the near term it should drive incremental growth. Additionally, we maintain our view that significant float balances in combination with a higher interest rate environment will continue to result in higher revenues the next few quarters. Looking at 3Q22, we model a $15mn sequential increase in interest income, resulting in ~12bps in take rate expansion. Putting the two drivers together, we project the combined impact of B2B AP/AR investment and elevated revenues from float balances to positively impact take rate by ~19bps.

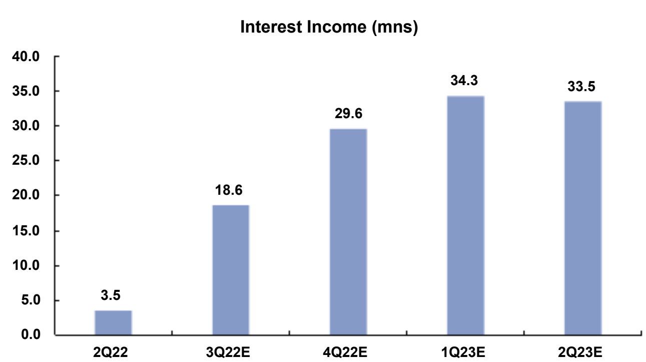
We update our PAYO 12-month price target to $9.50 (from $8.50), based on a 4x EV/Gross Profit multiple (unchanged) on our updated Q5-Q8 estimates.

Exhibit 51: We anticipate $140mn+ in interest income to boost 2023E total revenues

PAYO Float Revenue	
	2023
Average Float Balance ($mn)	6,263
% Interest Earning	55%
Fed funds rate	4.39%
Interest rate beta	95%
Interest Rate Applied	4.19%
Interest Income ($mn)	144
Transaction Profit ($mn)	685
Interest Income as % of Txn Profit	21%

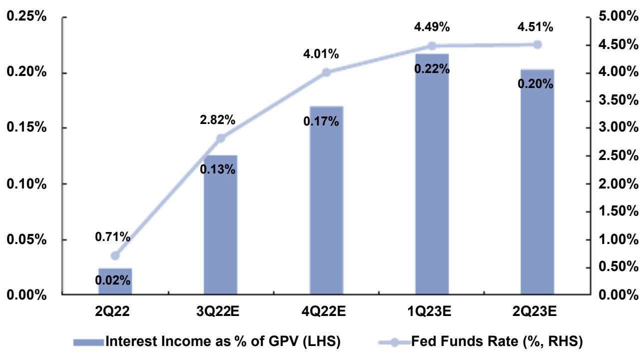
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 52: We project interest income to increase through the end of 2022E and early 2023E



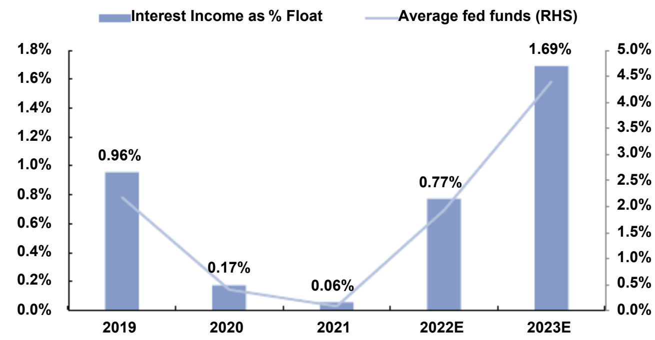
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 53: As a % of GPV, we project that interest income will increase alongside rising rates into 2023E



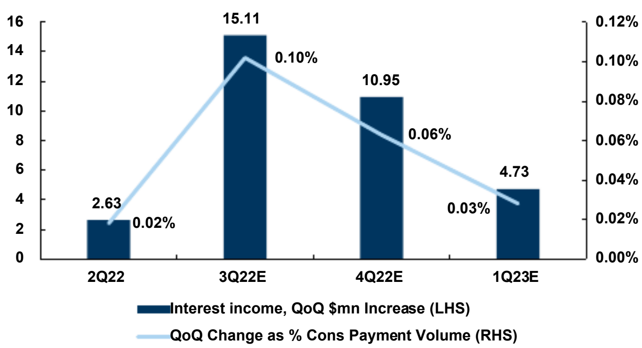
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 54: We expect interest income as % of float balance to increase going into 2023E



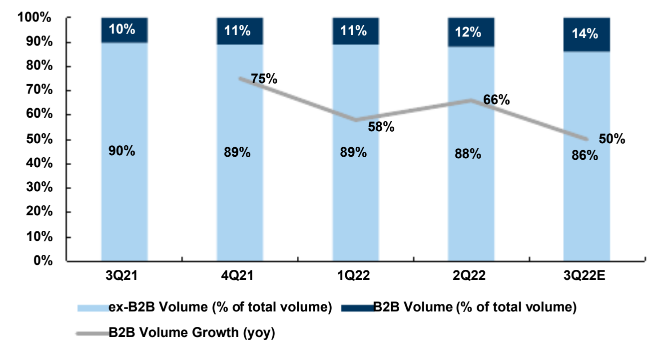
Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Exhibit 55: We expect take rates to increase as a result of growing interest income from higher interest rates and customer balances



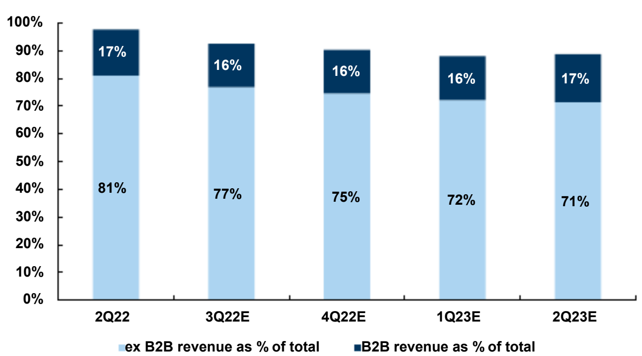
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 56: We expect strong B2B growth to continue into 3Q, offsetting broader ecommerce headwinds



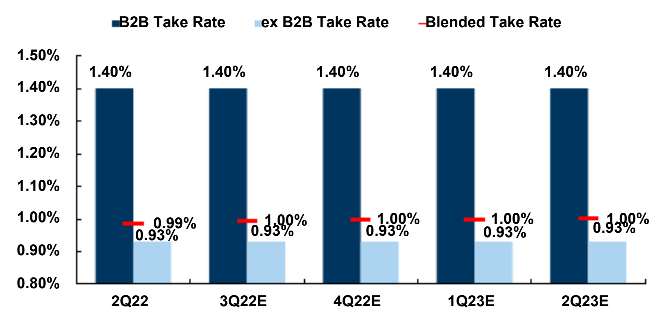
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 57: We expect B2B revenue's contribution to total revenue to remain relatively stable, as higher interest income becomes larger share…



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 58: …modestly expanding take rates over time



*ex-interest income

Source: Company data, Goldman Sachs Global Investment Research

NVEI: While shares are cheap, we don't expect a re-rating until the market regains confidence in the achievability of 20%+ growth

NVEI: We believe investor sentiment is mixed for NVEI heading into 3Q22 earnings, with investors primarily focused on 1) whether the double-digit negative revisions to 2022 guidance last quarter – and subsequent underperformance – sufficiently de-risked the rest of the year; and 2) whether the company can achieve management's 30%+ medium-term growth target consistently when excluding crypto-related revenue. We note that investors are particularly focused on whether 2022 guidance is sufficiently conservative, given NVEI's exposure to recent FX weakness in the EUR and GBP. Given the low degree of predictability in crypto markets broadly and the availability of data points on current volume/price trends in crypto, investors appear to be most focused on NVEI's revenue streams outside of crypto. We note that despite management's major revisions to guidance last quarter, we estimate that updated guidance could imply 28%-33% CC growth for non-crypto revenue, which could be challenging to achieve in the current macro climate. In order for the stock to re-rate higher, we think investors need to see a return to 20%+ growth and, given FX/crypto headwinds in the near term, we don't see this occurring until 2H of next year. Thus, we expect shares to be somewhat range-bound in the near term.

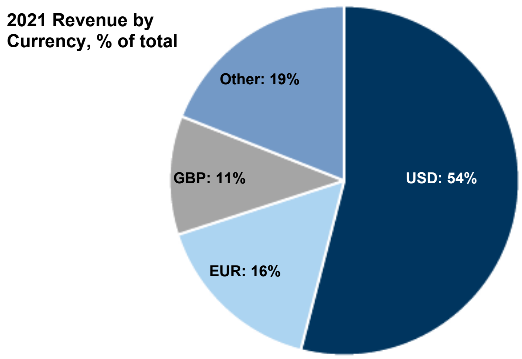
We maintain our 12-month price target for NVEI at $37 based on a ~9x Q9-Q12 EV/EBITDA (~8.5x previously, as we mark to market for changes in peer multiples) on our updated estimates, which reflect incremental FX headwinds.

Exhibit 59: We estimate that updated guidance implies 28%-33% yoy revenue growth, excluding crypto revenue and the impact from FX

YoY Revenue Growth ex-Crypto implied by 2022 Guidance				
	Crypto Revenue, % YoY			
$ in mn, unless noted	**-60%**	**-70%**	**-80%**	**Notes on 2022E**
2022 Revenue Guidance	**835**	**835**	**835**	2022 guidance midpoint
% Growth, YoY (PF)	4%	4%	4%	
% FX Impact	5%	5%	5%	Based on Guidance
2022 CC Revenue Guidance	**875**	**875**	**875**	
% CC Growth, YoY (PF)	9%	9%	9%	
Simplex	93	93	93	Company data
Non-Simplex Crypto	80	80	80	Company data
2021 PF Crypto Revenue	**173**	**173**	**173**	
Assumed 2022 YoY decline	60%	70%	80%	GS assumption; roughly in-line with YoY activity levels
2022 Implied Crypto Revenue	**69**	**52**	**35**	
Less: 2022E Crypto Revenue	69	52	35	
2022 Revenue ex-Crypto	**806**	**823**	**841**	
% CC Growth, YoY (PF) ex-Crypto	28%	30%	33%	

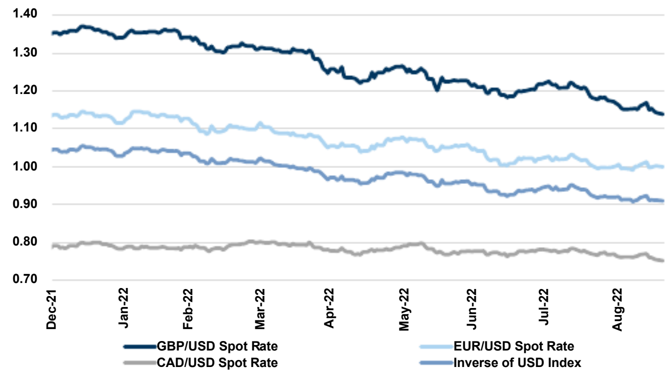
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 60: In 2021, foreign currencies represented 46% of NVEI's revenue



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 61: NVEI's largest FX exposures, EUR and GBP, have continued to decline since 2Q22 results



Source: Thomson Reuters Eikon, Goldman Sachs Global Investment Research

Exhibit 62: We estimate ~56% of 2021 revenue (including pre-close revenue from M&A) is in categories where growth is primarily driven by retail speculation

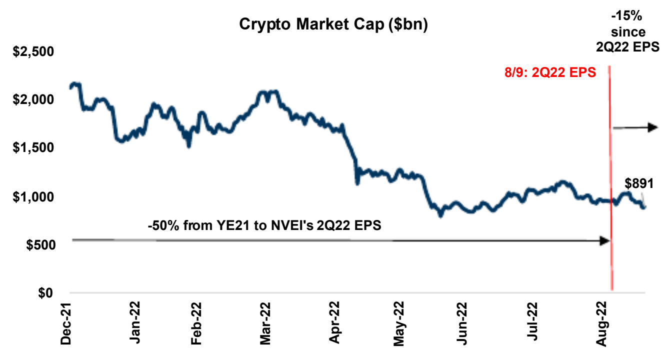
*Other includes: Industrials, Building Materials, & Construction; Healthcare; Associations & Co-operatives; Professional Services; Charitable, Funeral, Government, & Childcare; Energy & Utilities; and Pre-close Paymentez revenue.

**Simplex adjusted to include pre-close revenue, Online Sports Betting/iGaming adjusted to include pre-close Mazooma revenue.

Note: All mentioned acquisitions have closed

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 63: Crypto market cap is down roughly 58% YTD and ~15% since NVEI reported 2Q22 EPS



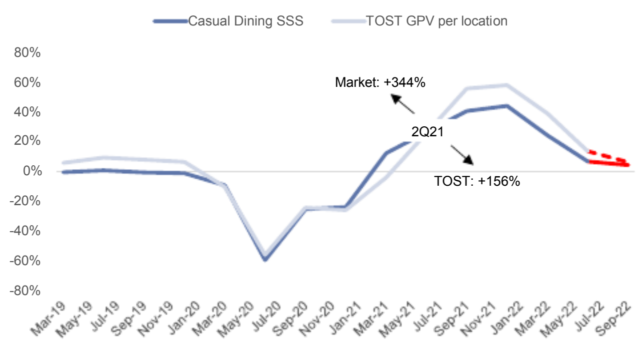
Source: Coin Dance

TOST: Expect a beat on strong GPV trends and continued momentum on subscription ARPU

TOST: We are positive on TOST into the quarter, as third party data suggests slight upside to payments GPV. However, we see room for TOST to expand subscription ARPU as adoption of modules has generally trended upwards over time. While we think that 3Q is likely to be a strong quarter for TOST, we are still cautious at this valuation level for a longer-term call, given the competitiveness in the space, high churn in the SMB market and high CAC cost relative to peers. Additionally, we believe TOST screens negatively in this macro environment as we have seen investor focus on profitability. In the near term, we see a positive catalyst path with a 3Q beat and potentially better message on profitability into next year, with some focus on operating leverage, especially on CAC metrics vs peers.

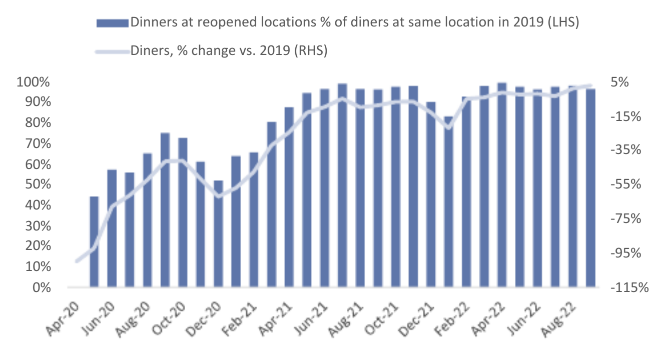
Our $23, 12-month price target (unchanged) for TOST is based on an unchanged ~13x EV/Gross profit multiple on Q5-Q8 estimates.

Exhibit 64: We expect % change in TOST GPV per location and Casual Dining SSS growth to trend downwards



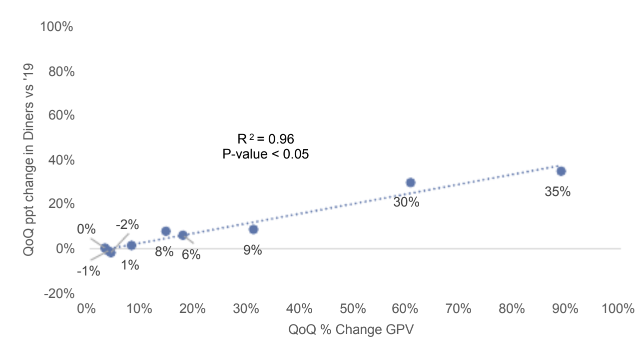
Source: Black Box Intelligence, Bloomberg, Visible Alpha Consensus Data

Exhibit 65: Restaurant traffic at reopened locations has remained elevated, with diner growth exceding 2019 levels



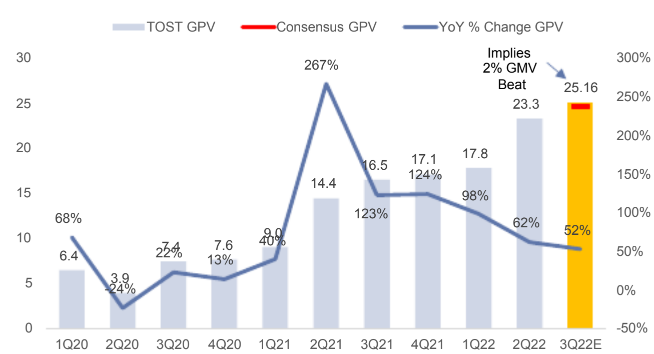
Source: OpenTable, Goldman Sachs Global Investment Research

Exhibit 66: OpenTable data has been a reliable predictor of TOST GPV...



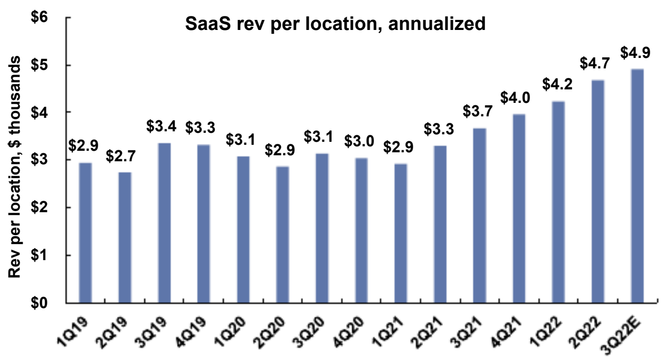
Source: OpenTable, Company data, Goldman Sachs Global Investment Research

Exhibit 67: ... which implies a 2% GPV beat for 3Q22



Source: OpenTable, Company data, Goldman Sachs Global Investment Research

Exhibit 68: SaaS ARPU has continued to grow steadily



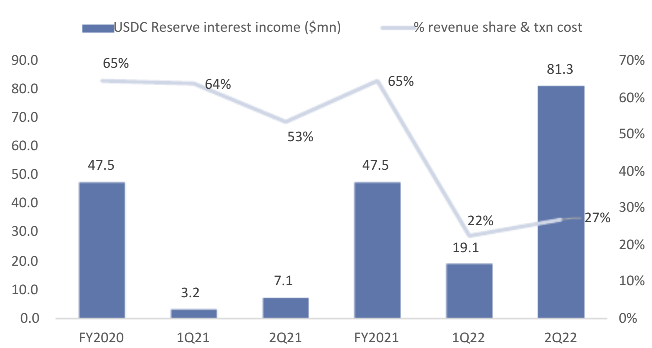
Source: Company data, Goldman Sachs Global Investment Research

COIN: Weaker retail activity levels partially offset by higher interest rates

Into the print, we expect continued weakness across COIN's revenue base, with the core business remaining under stress from suppressed activity levels (with daily trading volumes stalled, averaging between $1bn and $2bn). Although activity rates in the core business have been weak, we still expect to see some improvements in revenue as a result of higher interest rates and greater revenue share from the company's share of USDC economics (See our note here for more details). While higher rates are putting an upward bias on interest income, we have not materially changed our expectation for interest income based on new information from Circle's recently filed S-4, which indicates a revenue share with Coinbase of ~27% of interest income, lower than our 40% assumption previously. Thus, we continue to expect full-year adjusted EBITDA to be in the ~-$200-$300mn range and see an 11% revenue beat (driven by higher than expected interest income generated from USDC partnership) into 3Q earnings. Strategically, we believe investors are looking to the company to provide further color on 1) the competitive dynamics both domestically and internationally, 2) the regulatory environment and 3) greater details on the company's USDC partnership. Finally, we expect the company to provide further color on their investments through the end of the year, likely doubling down on their plans to continue to invest through the peaks and troughs of the underlying crypto environment.

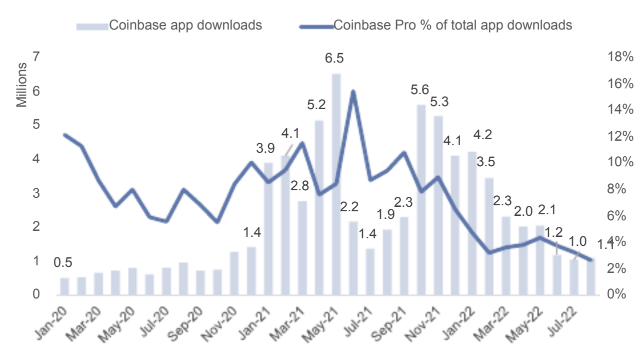
Our unchanged 12-month $51 price target for COIN is based on an unchanged 3x EV/Sales on our Q9-Q12 estimates.

Exhibit 69: COIN's USDC reserve economics have recently been between 20% to 30%



Source: Company data

Exhibit 70: COIN's app downloads have remained weaker through 3Q22



Source: Sensor Tower, GS DataWorks

Exhibit 71: COIN's monthly trading volume has remained between $45bn and $60bn

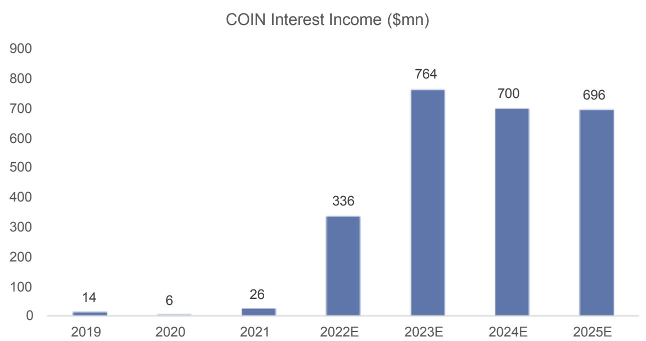
Source: CoinGecko

Exhibit 72: We see transaction revenues above Street expectations

3Q22 Transaction Revenue Sensitivity					
3Q22 COIN Volume ($bn) GS Est.	157	157	157	157	157
Institutional volume ($bn)	117	119	120	122	123
Institutional volume weight	74%	75%	76%	77%	78%
Institutional take rate (GS Estimate)	0.02%	0.02%	0.02%	0.02%	0.02%
Institutional trans. revenue ($mn)	27	27	27	28	28
Retail volume ($bn)	40	39	37	36	34
Retail volume weight	26%	25%	24%	23%	22%
Retail take rate (GS Estimate)	1.34%	1.34%	1.34%	1.34%	1.34%
Retail trans. revenue ($mn)	541	520	499	478	457
Total trans. revenue ($mn)	568	547	527	506	485
Blended take rate (GS Estimate)	0.36%	0.35%	0.33%	0.32%	0.31%
Consensus trans. revenues ($mn)	495	495	495	495	495
% difference	15%	11%	6%	2%	-2%

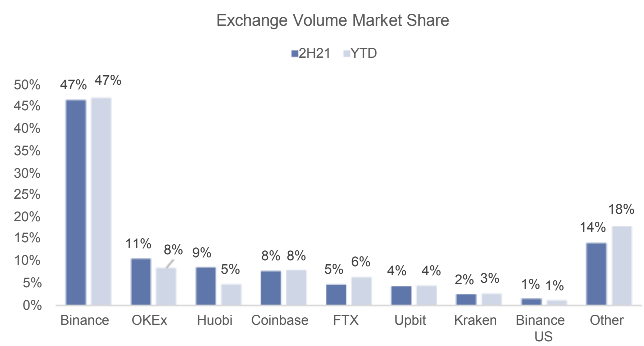
Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

Exhibit 73: With rates expected to rise above 350bps, we see 2023 interest income approaching $800mn



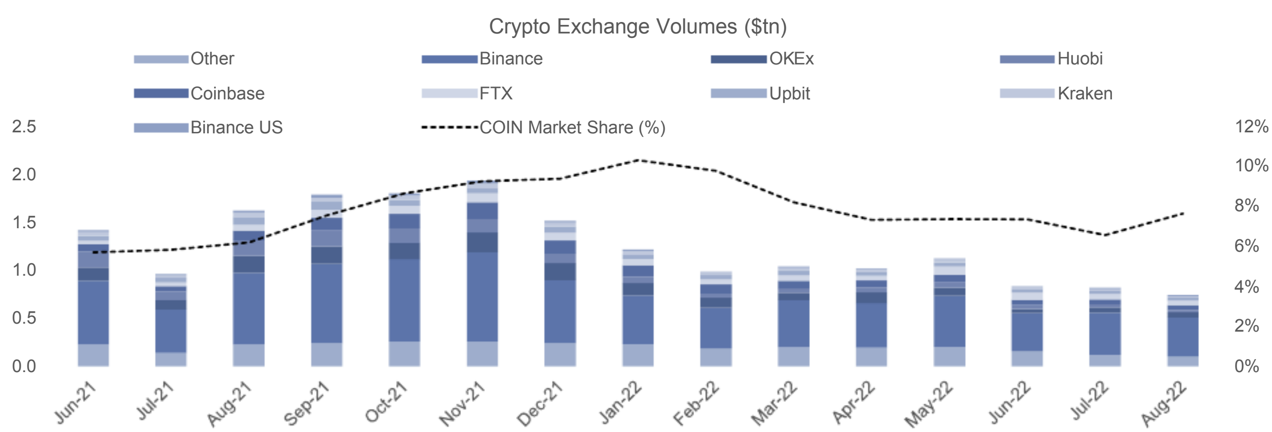
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 74: COIN's market share has not meaningfully changed since the second half of 2021



Source: The Block, Crypto Compare, Goldman Sachs Global Investment Research

Exhibit 75: Crypto exchange volumes remain subdued



Source: The Block, Crypto Compare

HOOD: Intraquarter activity boost and interest rates pull revenues higher

While we remain Neutral rated on HOOD, we are tactically constructive heading into 3Q earnings, as we believe revenues are likely to exceed expectations on a combination of core brokerage KPIs finally stabilizing in 3Q and higher interest rates driving a meaningful tailwind to revenues given the rapid rise in interest rates. On a YoY basis, we expect continued headwinds to HOOD's primary transaction-based revenue streams, with both equities/options and crypto activity still remaining well below 2021 levels. Despite broader market weakness, based on intra-quarter data, HOOD saw an increase in volumes in August partially driven by meme-stock-related activity and will likely see a large NII inflection from higher interest rates in the quarter. In addition, the company continues to make progress rightsizing its cost structure, which we believe should put the company on track to achieve adjusted EBITDA profitability heading into 2023. Given the interest income tailwinds and the reductions in the company's cost structure, we expect further color on their path to profitability, but with shares trading at ~1.3x tangible book value, we believe risk reward is skewed to the upside in the near term.

Our HOOD 12-month price target is $11.50 (previously $11) based on an unchanged 2.5x EV/Sales multiple on our updated Q5-Q8 estimates.

Exhibit 76: We believe HOOD monthly metrics suggest a ~7% beat on transaction revenues

HOOD 3Q22 Analysis											
$ mn	2Q21	3Q21	4Q21	1Q22	2Q22	Month 1	Month 2	Month 3	3Q22 implied	Consensus 3Q22	vs cons
Calendar Days	-	92	92	90	91	31	31	30	92		
Trading Days	-	64	64	62	62	20	23	21	64		
Funded Accounts	22.5	22.4	22.7	22.8	22.9	22.9	22.9	22.9	22.9	22.9	0%
MAUs	21.3	18.9	17.30	15.90	14.00	13.20	13.30	13.30	13.30	14.06	-5%
Equity volume ($bn)	-	217.8	239.8	188.8	163.0	48.8	66.0	57.4	172.2		
per Trading Day	-	*3.4*	*3.7*	*3.0*	*2.6*	*2.4*	*2.9*	*2.7*	*2.7*		
Option contracts traded (M)	-	282.9	291.3	236.9	210.6	67.0	89.9	82.7	239.6		
per Trading Day	-	*4.4*	*4.6*	*3.8*	*3.4*	*3.4*	*3.9*	*3.9*	*3.7*		
Crypto volumes ($bn)	-	50.3	44.3	23.5	19.0	5.5	5.3	5.0	15.8		
per Day	-	*0.55*	*0.48*	*0.26*	*0.21*	*0.18*	*0.17*	*0.17*	*0.17*		
Equity take rate (GSe)	-	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%		
Option rev per txn (GSe)	-	0.58	0.56	0.54	0.54	0.54	0.54	0.54	0.54		
Crypto take rate (GSe)	-	0.10%	0.11%	0.23%	0.31%	0.35%	0.35%	0.35%	0.35%		
Equity PFOF	52.0	50.0	52.0	36.0	29.0	8.7	11.7	10.2	30.6		
Options PFOF	164.6	164.0	163.0	127.0	113.0	36.2	48.5	44.7	129.4		
Crypto PFOF	233.1	51.0	48.0	54.0	58.0	19.3	18.6	17.5	55.3		
Total PFOF	**449.7**	**265.0**	**263.0**	**217.0**	**200.0**	**64.1**	**78.8**	**72.4**	**215.3**		
per MAU	7.04	4.67	5.07	4.55	4.76	4.86	5.93	5.44	5.4		
Interchange and Other	1.45	2.00	1.00	1.00	2.00	0.7	0.7	0.7	2.2		
per MAU	0.02	0.04	0.02	0.02	0.05	0.05	0.05	0.05	0.05		
Transaction Revenue	**451.2**	**267.0**	**264.0**	**218.0**	**202.0**	**64.8**	**79.6**	**73.1**	**217.5**	**203.0**	**7%**
Margin Balances	5.54	6.20	6.53	5.40	4.20	4.0	4.2	3.9	4.0	4.3	-6%
Effective yield	2%	2%	2%	3%	4%	5%	5%	5%	5%		
Margin Interest	31.23	34.00	39.00	35.00	39.00	17.8	18.7	17.6	54.6		
Securities Lending (% of margin)											
Effective Yield	3%	2%	2%	2%	2%				2%		
Sec Lending Interest	39.4	33.0	29.0	24.0	23.0				22.3		
Average cash mgmt balance	1,928	1,981	2,073	2,137	2,168				2,227		
Effective Yield	0.28%	0.20%	0.19%	0.19%	0.37%				2.16%		
Cash mgmt interest	1.37	1.00	1.00	1.00	2.00				12.1		
Average seg cash balance	3,982	4,212	4,921	4,230	4,225				3,307		
Effective Yield	0.1%	0.1%	0.1%	0.0%	0.1%				2.72%		
Seg cash interest	1.1	0.9	1.0	0.0	1.0				22.7		
Average Corporate Cash	3,099	4,936	5,622	6,210	6,222				5,898		
Effective Yield	0.00%	0.08%	0.00%	0.06%	0.06%				2.75%		
Other Net Interest Rev/Exp	0.0	1.0	0.0	1.0	1.0				40.8		
Total Net Interest Income	**73.2**	**69.9**	**70.0**	**61.0**	**66.0**				**152.5**	**110.0**	**39%**
Other Revenues	**39.2**	**46.5**	**34.7**	**35.4**	**26.0**				**28.1**	**37.5**	**-25%**
Total Revenues	**563.6**	**383.4**	**368.7**	**314.4**	**294.0**				**398.2**	**350.5**	**14%**

Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

GLBE: We are cautious into 3Q earnings given FX and macro headwinds and limited positive offsets

GLBE: While we remain Buy rated on GLBE given the considerable tailwinds the company has in its cross border e-commerce driven business and its exclusive arrangement with Shopify, we are tactically cautious into 3Q earnings, as we believe incremental headwinds from European macro, as well as currency headwinds are likely to lead to a negative guidance revision, and we don't see any positive offsets, such as the incorporation of the Borderfree acquisition last quarter, which obscured the slight reduction in guidance**.** While results last quarter were strong despite a similar focus on these issues, we think investors are hesitant to step in until the macro outlook turns more positive. That said, if GLBE can post another solid quarter and a guidance update largely that largely reflects FX versus a slowdown in the overall business, we believe shares could be poised for a relief rally and could see improved sentiment for the stock. We also expect additional color on the Shopify partnership following SHOP's recent launch of Shopify Markets Pro (powered through its partnership with GLBE) earlier this month, where additional detail on growth expectations and unit economics could be well-received.

We update our 12-month price target for GLBE to $38 (from $40 previously) based on a 20x multiple (unchanged) on our updated Q5-Q8 gross profit estimates, which reflect incremental FX headwinds.

Exhibit 77: GLBE has outperformed guidance in every quarter since the IPO

GLBE Quarterly Results vs. Guidance (midpoint)						
	GMV Growth, % yoy		Revenue Growth, % yoy		Adj EBITDA Margin	
	Actual	Guidance	Actual	Guidance	Actual	Guidance
2Q21	95%	67%	92%	60%	13.3%	6.3%
3Q21	86%	76%	77%	66%	13.1%	6.0%
4Q21	66%	55%	54%	44%	14.3%	10.1%
1Q22	71%	69%	65%	64%	4.3%	1.6%
2Q22	64%	53%	65%	46%	12.7%	4.0%
3Q22E	NA	73%	NA	71%	NA	10.0%

**Based on midpoint of guidance*

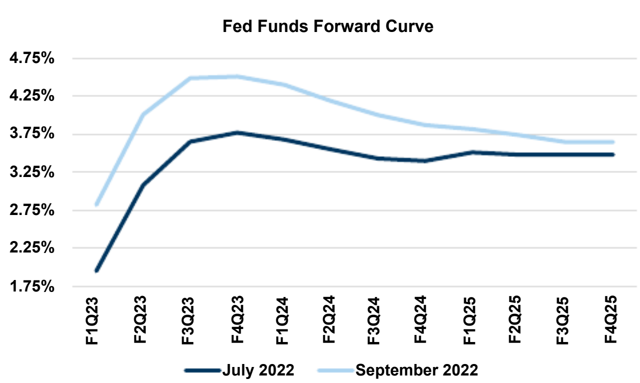
Source: Company data, Goldman Sachs Global Investment Research

BILL: Don't see any major surprises, but expect a bump up in float rev expectations on top of normal beat-and-raise

BILL: While we remain constructive on BILL into the print and expect momentum to continue to be strong, we don't expect any major surprises this quarter. We see a nice beat versus the Street, consistent with prior quarters (which we believe is already anticipated by investors) and expect continued focus on the growth in the FI channel and the organic growth trends in the business. We see revenue at the high-end of guidance for the quarter and potential for an increase to top and bottom-line guidance on the back of recent rate hikes, which we estimate could add an incremental $23mn-$57mn of revenue that should largely flow through to the bottom line. The low-end of this estimate is consistent with our base case, which assumes it takes longer for increases in the Fed Funds rate to flow through to the interest rates BILL earns on customer funds, while the high-end assumes the flow through to BILL's interest income is more immediate. Assuming 100% incremental margins and that BILL retains additional float income as profit (vs. reinvesting it in the business), we estimate this could add ~230-540bps to net margins in F2023. As such, we are positive on BILL into the quarter as we believe incremental profitability, even if rate driven, would be well-received by investors, particularly if paired with solid core revenue growth in the quarter, which could help to alleviate investor concerns around the potential for BILL to see greater impact from recent macro weakness because of its focus on SMBs. Lastly, we believe the competitive environment will be in focus post INTU's investor day, where the company highlighted initiatives in B2B AP/AR.

We update our 12-month price target for BILL to $183 ($180 previously) based on a ~13x EV/Gross Profit multiple (unchanged) on our updated Q9-Q12 estimates, which reflect incremental interest income as we mark to market for changes in the Fed Funds forward curve.

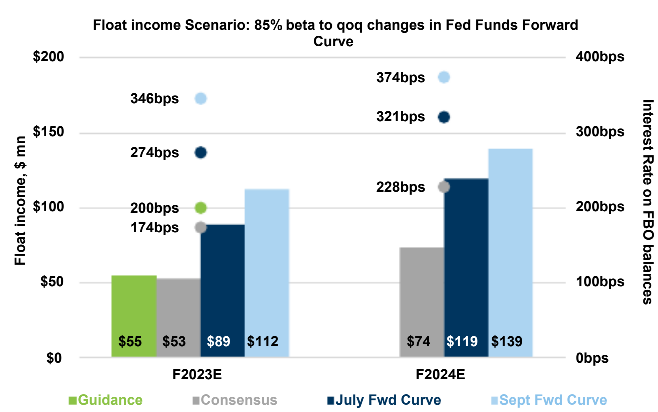
Exhibit 78: F2023/24 Fed Funds Forward rates have increased meaningfully since July



Source: Bloomberg

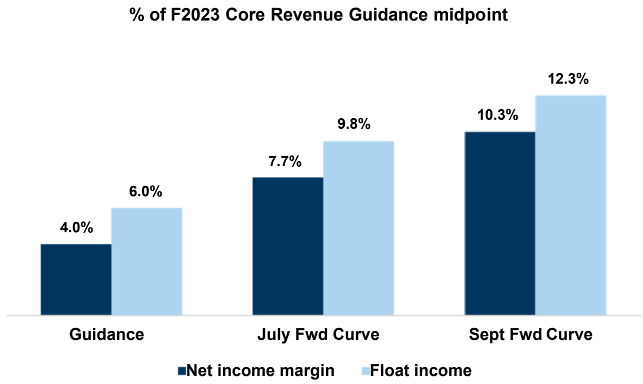
Exhibit 79: Our scenario analysis suggests potential for upside to Float income based on changes in the Fed Funds Forward Curve since July

Float income, $ mn (LHS); Interest Rate on FBO balances (RHS); July/Sept Fwd Curve scenarios assume 85% beta to qoq changes in the forward curve



Source: Bloomberg, Company data, Goldman Sachs Global Investment Research

Exhibit 80: We see potential for meaningful upside to F2023 net margin guidance following recent rate hikes



Source: Bloomberg, Company data, Goldman Sachs Global Investment Research

Exhibit 81: BILL has historically beat the midpoint of revenue guidance by 13%

BILL Quarterly Results vs. Guidance									
	Consolidated Total Revenue, $ mn			Core Bill.com Revenue, % yoy		Divvy Revenue, % yoy		Interest/I2G Revenue	
Fiscal	Actual	Guidance*	% Beat	Actual	Guidance	Actual	Guidance	Actual	Guidance
3Q20	$41.2	$38.4	8%	63%					
4Q20	$42.1	$37.9	11%	54%					
1Q21	$46.2	$41.5	11%	53%					
2Q21	$54.0	$47.0	15%	59%					
3Q21	$59.7	$54.2	10%	62%					
4Q21	$78.3	$61.4	27%	73%					
1Q22	$116.4	$103.7	12%	77%	60%	188%	160%	$1.7	$0.5
2Q22	$156.5	$130.5	20%	85%	60%	188%	137%	$10.6	$6.5
3Q22	$166.9	$157.5	6%	74%	67%	155%	132%	$11.2	$10.7
4Q22	$200.2	$182.8	10%	71%	60%	NA	120%	$15.8	$11.8
1Q23	NA	$209.5	NA	NA	NA	NA	NA	NA	NA

**Consolidated Total Revenue Guidance based on midpoint*
***1Q23 Guidance assumes $12mn of Float income*

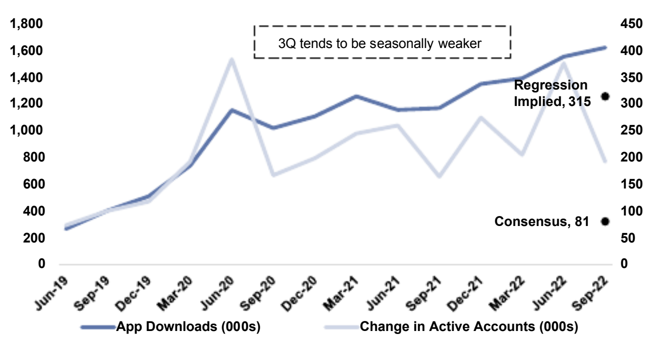
Source: Company data, Goldman Sachs Global Investment Research

RELY: App data implies stronger quarter than consensus expectations

We believe RELY is likely to continue to outperform consensus estimates of net adds based on app download data, even while 3Q is a seasonally weaker quarter generally. We see the Street assuming net adds lower than last year at 81k QoQ, or -51% YoY, while app downloads are up 59% YoY. RELY has exceeded consensus top-line estimates by 7% on average in the four quarters since it has been public, but we have not seen follow through in the stock despite strong momentum and clean execution by the company. We expect this quarter to be yet another proof point in the company's secular growth tailwinds from digitizing the remittance market. To this end, we expect commentary around CAC efficiency, competition, and profitability into 2023 are likely to be in focus. Into the print, management has commented on its expectations of some leverage in operating expenses as the company laps public company costs. Additionally, we expect that expectations of FX headwinds for RELY may be overstated; despite its international business, management has commented that FX does not materially impact the business and in some cases can incentivize some senders to take advantage of stronger currencies in send markets.

Our $16 price target (previously $14) for RELY is based on an unchanged ~3x EV/Revenue less transaction expense multiple on Q9-Q12 estimates.

Exhibit 82: We believe app downloads imply outperformance on net adds vs consensus



Source: Visible Alpha Consensus Data, Sensortower, Goldman Sachs Global Investment Research

Exhibit 83: When sensitizing take rate and transaction margins, we see scenario performance vs consensus skewed to the upside

Estimate 3Q22 transaction profit					
QoQ active user growth	315	315	315	315	315
Implied users	3,734	3,734	3,734	3,734	3,734
Consensus 3Q22 Active Users	3,500	3,500	3,500	3,500	3,500
Difference vs consensus	7%	7%	7%	7%	7%
Volume per User	2,030	2,030	2,030	2,030	2,030
Send volume	7,578	7,578	7,578	7,578	7,578
Take rate	2.20%	2.23%	2.26%	2.29%	2.31%
Implied revenue	166.7	168.9	171.0	173.2	175.4
Difference vs consensus	3%	4%	5%	7%	8%
Transaction Cost	72.3	71.5	70.8	69.9	69.0
% of revenue	43%	42%	41%	40%	39%
Implied transaction Profit	94.4	97.3	100.3	103.3	106.3
Difference vs consensus	-3%	0%	3%	6%	9%
Transaction profit margin	57%	58%	59%	60%	61%

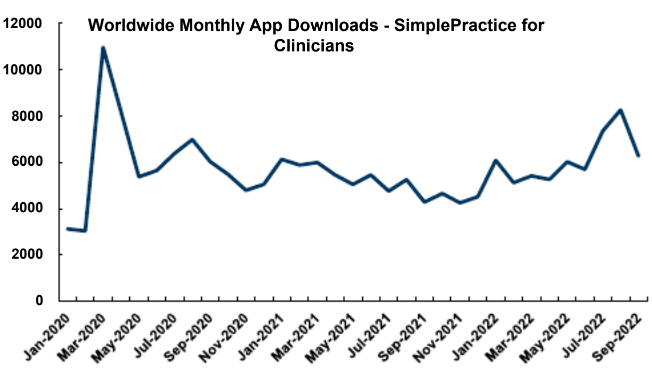
Source: Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

ESMT: Expect strong momentum in Simple practice to continue as net adds accelerate as pricing related churn eases

We are positive on ESMT into the quarter as we believe consensus is likely underestimating net adds for the SMB business. While we believe elevated churn from pricing changes was a contributing factor to the divergence in app downloads and net adds, we believe the strong downloads in 3Q to date (run-rated) support strong net adds for the SMB side of the business. However, management has commented that they saw less churn than expected and more customers than expected choosing higher tier options, which should drive strength in SMB ARPU and growth in SMB higher than the expected 5-10% lift from pricing increases. Management also continues to be positive on both 1) continued expansion into additional wellness verticals and 2) the non-discretionary nature of mental health and wellness services. Additionally, we expect the enterprise portion of the business to remain resilient, especially as management has commented that it has not seen signs of wavering consumer health. Considering the favorable data into the print, we believe management may benefit from embedded conservatism in the guide, especially with high incremental margin revenue from SimplePractice as the go-to-market does not involve direct sales.

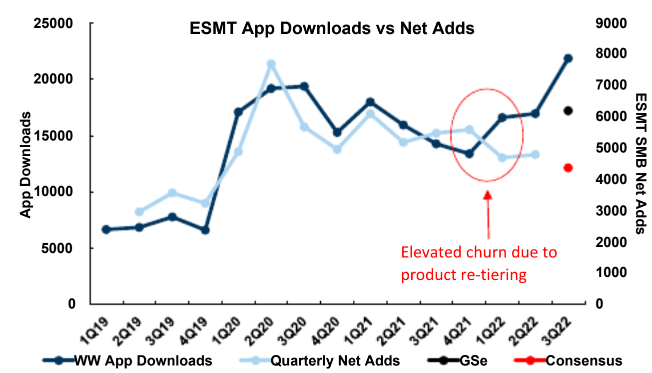
Our $27 12-month price target for ESMT (unchanged) is based on a ~9.5x EV/Gross profit multiple on Q9-Q12 estimates (~10x previously, as we mark to market for changes in peer multiples).

Exhibit 84: Monthly app downloads for SimplePractice have remained elevated following the COVID spike



Source: Sensortower, Goldman Sachs Global Investment Research

Exhibit 85: Based on app download data, we believe there is upside to consensus estimates for SMB Net Adds



Source: Sensortower, Visible Alpha Consensus Data, Goldman Sachs Global Investment Research

Exhibit 86: If we sensitize on ARPU in the SMB segment, we see a range of ~5-10% higher than consensus estimates for SMB Revenue

Estimate 3Q22 SMB Revenue					
QoQ Net Adds	6,200	6,200	6,200	6,200	6,200
Average Period Customers	92,500	92,500	92,500	92,500	92,500
Subscription ARPU per customer	$336.84	$340.24	$343.68	$347.12	$350.59
Transaction/Usage ARPU per customer	$134.42	$135.77	$137.15	$138.52	$139.90
3Q22 Other SMB Revenue GSe	$0.20	$0.20	$0.20	$0.20	$0.20
Implied SMB Revenue	$43.79	$44.23	$44.68	$45.12	$45.57
Consensus SMB Revenue	$41.61	$41.61	$41.61	$41.61	$41.61
Variance from Consensus	5.2%	6.3%	7.4%	8.4%	9.5%

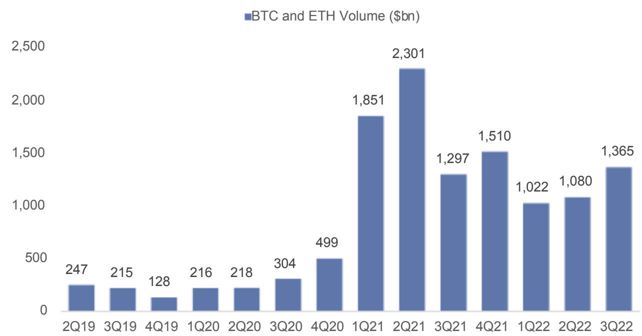
Source: Company data, Goldman Sachs Global Investment Research, Visible Alpha Consensus Data

SI: We see potential for greater deposit outflows versus last quarter but expect higher interest rates to more than offset

Despite seeing a solid top-line beat, we believe 3Q earnings will see somewhat mixed trends, as we believe SI will be unlikely to see another increase in deposits such as last quarter, and thus we see a more mixed quarter. Notably, however, intraquarter updates from SBNY, a key SI competitor, indicated a roughly 16% outflow of their digital deposit base as a result of the stalled crypto market. However, given the operational nature of SI's non-interest bearing deposit base, we believe SI's deposits are likely to be less sensitive to the increase in interest rates and lower crypto activity we have seen year to date. For that reason, we expect a majority of SI's deposits to remain resilient and outperform SBNY's (similar to last quarter). We expect see SI's "Other Deposits" base as the most at risk, as these deposits are not held for the purposes of using the SEN, making them less sticky. Additionally, while we expect less volatility in SI's SEN-related deposits, we believe lower crypto prices in general necessitate less trading capital for institutional investors in the space, and thus, we expect deposits to be down 6-7% quarter over quarter. That said, interest rates have continued to rise faster than expected with 3Q NIM fully capturing the rate hikes earlier in the year, providing a boost to EPS through the end of the year. In addition to the BS/NIM dynamics, we expect investors will likely look for the company to provide additional color on the progress in launching Diem, which the company acquired earlier in the year.

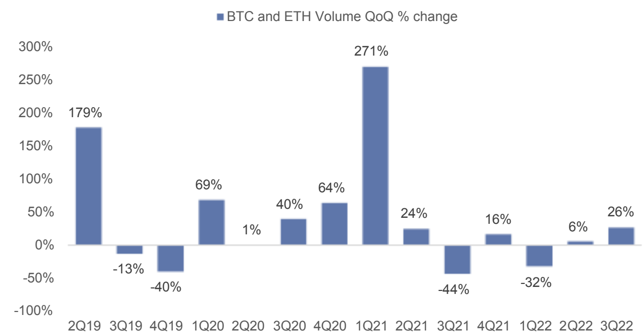
Our 12-month price target of $108 ($100 previously) is based on an unchanged 11x P/E ratio on our updated Q5-Q8 estimates.

Exhibit 87: BTC and ETH volumes have remained relatively flat QoQ



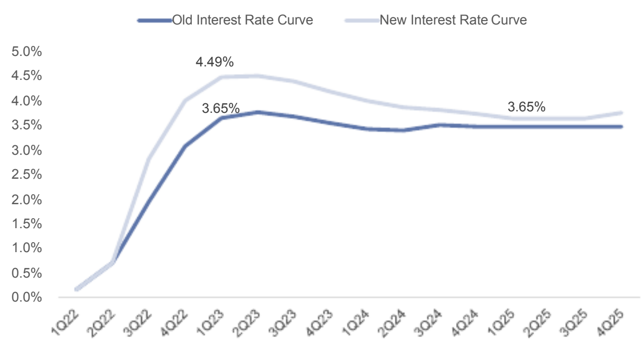
Source: Coin Metrics

Exhibit 88: Sequential changes in crypto volumes have remained subdued over the past two quarters



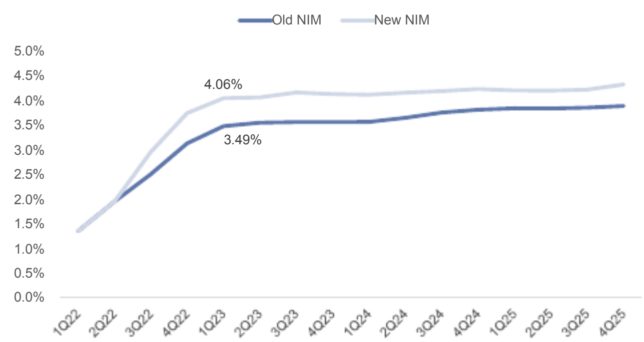
Source: Coin Metrics

Exhibit 89: Interest rate expectations have continued to rise...



Source: Bloomberg

Exhibit 90: ... driving incrementally higher NIM



Source: Bloomberg

Exhibit 91: Peer intraquarter digital deposit outflows indicate potential stress across SI's deposit base

SI Digital Deposit Sensitivity Analysis ($mn)					
SBNY					
SBNY 2Q22 Digital Deposits	-	-	26,800	-	-
Mid quarter update loss	-	-	4270	-	-
% growth			-16%		
SI					
Exchanges & inst.	-	-	11,426	-	-
% growth	-9%	-7%	-5%	-3%	-1%
Exchanges & inst. Digital Deposits	10,398	10,626	10,855	11,083	11,312
Other	-	-	1,879	-	-
% growth	-20%	-18%	-16%	-14%	-12%
Other Digital Deposits	1,504	1,542	1,580	1,617	1,655
3Q22E Total Digital Deposits	**11,902**	**12,168**	**12,434**	**12,700**	**12,967**
QoQ % change	-11%	-9%	-7%	-5%	-3%

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 92: We expect rising rates to have a negative bias on SI's TBV

3Q22 GSe Tangible Book Value Analysis	
2Q22 TBV	1,033
3Q22 NI, GSe	53
AFS Securities	8,686
2Q22 change in rates (10 yr)	0.66%
2Q22 OCI	**-160**
% FV	1.8%
3Q22 change in rates (10 yr)	0.71%
3Q22 OCI, GSe	**-172**
% FV	1.98%
3Q22 AOCI, GSe	-559
3Q22 TBV, GSe	**914**
QoQ change	-12%
per share	$29
Fixed Rate Securities	*3,909*
% Fixed	*45%*
Portfolio Duration	*~3*

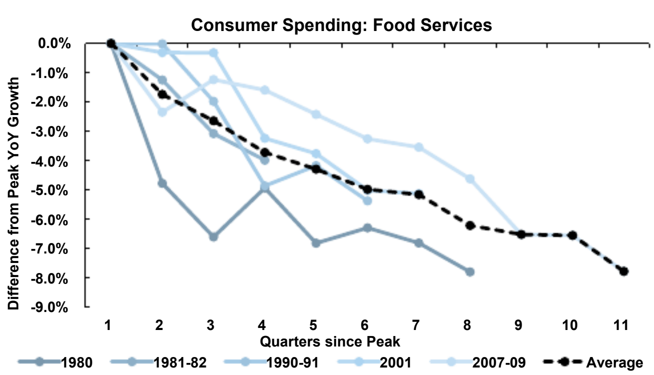
Source: Company data, Goldman Sachs Global Investment Research

FOUR: Expect strong 3Q results, driven by gross margin expansion from distribution in sourcing deals, gateway price increases, and relatively stable U.S. spending trends vs its conservative outlook.

Following our takeaways from meetings with management (note), we are positive on the gross margin trajectory and conservative outlook from management. We expect that the company has benefited from conservatism in guidance given at the start of the year amid macro uncertainty and volatile global events, especially as consumer spending remains intact and travel and hospitality metrics were healthy in 3Q. Additionally, we see a variety of levers for management to pull, including gateway price increases that will benefit the top line and drop at 100% incremental margins to EBITDA, and margin expansion from the insourcing of 3rd party seller relationships (nearer term margin benefits) and back-end payments processing capabilities. While we are positive on execution into the quarter, we still believe it is difficult for the stock to re-rate materially longer term given strong performance recently (33% gain since June) and risk around discretionary exposure as macro indicators remain bearish.

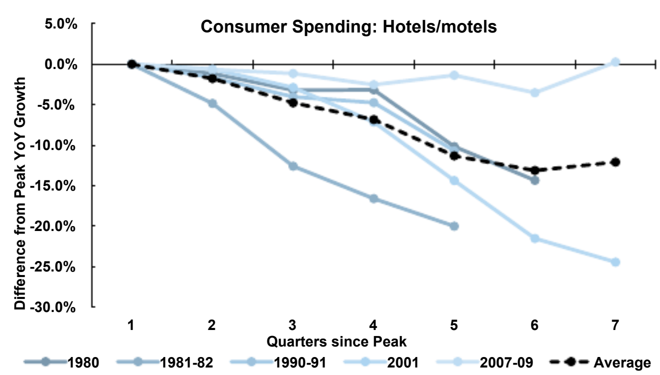
We update our 12-month price target to $50 (from $47) based on an ~11.5x Q5-Q8 EV/EBITDA multiple (~10.5x previously as we mark to market for changes in peer multiples) on our updated estimates.

Exhibit 93: Food service spending growth has historically decelerated ~8% on peak to trough in prior downturns



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

Exhibit 94: With a similar deceleration in Hotel spending



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

Exhibit 95: We expect gateway price increase to result in a lift to gross margins and FCF conversion

	2020	2021	2022	2023	2024	
Gateway Volume	$114,477	$156,483	$114,926	$104,168	$93,751	
Assumed Prior Gateway Take Rate	3.9bps	4.4bps	7.0bps	10.2bps	10.2bps	
% of Volume Subject to New Pricing			12.5%	25.0%	25.0%	
% Uplift in Take Rate			75%	75%	75%	
New Gateway Take Rate			12.3bps	17.8bps	17.8bps	
Prior Gateway Revenue	$44.6	$69.6	$81.0	$106.1	$95.4	
Incremental Gateway Revenue			$7.6	$19.9	$17.9	
Variance			9.4%	18.8%	18.8%	
	1Q22	2Q22	Guide Raise	1H22	2H Implied	Lift to 2H22
2022 Net Revenue Guide	$690.0	$700.0	1.4%	$331.4	$368.6	2.1%
2022 Gross Margin Guide	60%	65%	5%	57%	72%	2.1%
2022 Adj EBITDA Guide	$245.0	$260.0	6.1%	$109.9	$150.1	5.1%
2022 FCF Conversion Guide	35%-40%	35%-40%	0%	27%	45%	5.1%

Source: Goldman Sachs Global Investment Research

AVDX: Expect limited surprises but see a handful of upside levers

Into earnings, we continue to expect the company's highly recurring and visible revenue model to provide limited risk to near-term numbers. However, given 1) higher rates, which should put an upward bast on float revenues 2) inflationary factors impacting payment volume (+33% YoY YTD organically) and 3) tailwinds from election related spending, we think the near-term risk is likely skewed to the upside for 3Q earnings. In addition to the steady stream of revenues we expect through the end of the year, we also expect the business to benefit from the uptick in political ad spending around the election cycle (through the recent acquisition of FastPay) as we approach the midterm elections. Second, payment volume growth has been particularly strong YTD, likely benefiting from inflation, which we believe could continue into the back half of the year. Lastly, while the company has disclosed relatively low monetization of customer float balances, we see this as a source of upside if the company can pull some levers to optimize this income stream. Despite these tailwinds, we believe investor continue to look for the company to execute on their margin expansion initiatives (e.g. Invoice Accelerator 2.0) and improved profitability outlook over the coming years and think the company needs to demonstrate an acceleration in organic customer growth for shares to meaningfully inflect higher.

Our $9 AVDX 12-month price target is unchanged, based on an unchanged 5x EV/Gross Profit multiple on our Q9-Q12 estimates.

PAY: While shares are cheap, don't expect a narrative shift until revenue growth regains 30% and uncertainty around transaction margins reduces

We expect a relatively in-line quarter for the top-line given PAY's exposure to defensive verticals (like utilities), with potential for some variability in margins from inflation depending on the mix of card volume (where COGS include %-based fees vs. per-transaction fees for revenue). Despite PAY's more stable end-markets and recurring revenue model, the stock has underperformed bill pay/AR-focused peers (FLYW, ESMT, ACIW) by ~35% following last quarter's weaker than expected earnings. While the stock appears relatively cheap at ~5x 2023 EV/GP vs. ~9x for bill pay/AR-focused peers, we expect growth to decelerate in 2H22 with potential for weaker profitability as contribution margins (and operating expenses) absorb the impacts of inflation, which we believe could keep investors on the sidelines until growth starts to re-accelerate and investors gain confidence in margin expansion. That said, with shares trading at a meaningful discount to ESMT, which we view as the closest public comp, and now trading at just ~24x 2023 EBITDA, we see potential for multiple expansion down the line once investors have more confidence in the company's growth trajectory.

We update our 12-month price target for PAY to $14 ($16 previously) based on a ~4.5x EV/Gross Profit multiple on our Q9-Q12 estimates (5.5x previously, as we mark to market for changes in peer multiples).

WU: We are cautious into the company's investor day, as we are 19% below consensus on 2023, and expect the investor day to focus on growth / M&A / spending initiatives

We are cautious into the company's investor day (which is occurring ahead of the EPS print), as Street estimates assume an inflection in EPS in 2023, with VA consensus EPS at $1.83 vs a 2H22 run-rate of $1.60 (which was before the considerable FX headwinds in 3Q). We expect the company to pre-release 3Q22 results during their October 20 investor day, which we expect to de-risk the EPS print. However, we believe the fundamental set-up is very challenging as 2023 numbers are too high and the company is likely to convey a message around investment spending and growth driven M&A which could lead to investors taking a more conservative view of the company's profitability profile in the near term. Additionally, we believe mgmt could provide an initial look into 2023 that could lead to negative earnings revisions. Heading into the print we expect incremental headwinds driven by the strengthening of the U.S. dollar, especially across parts of Europe and Asia. Against Street expectations for an inflection in earnings into 2023, we believe the market is assuming 1) too large of a near-term lift in revenues growth, 2) is not allowing for growth-related investments to weigh on margins and 3) is not fully baking in the loss of retail agent relationships in 2023. While shares have underperformed and trade at an un-demanding ~9x our 2023 EPS estimate, we believe shares will struggle to outperform while estimates remain too high and uncertainty remains around the impacts of the company's growth initiatives.

We update our 12-month price target for WU to $15 ($15.50 previously) based on an unchanged ~10x P/E multiple on our updated Q5-Q8 estimates.

PAR: Relatively in-line quarter with continued margin expansion

Into the quarter, we expect PAR to put up relatively strong growth across their software solutions. Given the mission critical nature, we see Brink and Punchh outpacing Data Central, where mgmt has previously highlighted weakness and elevated churn. With recurring software revenues carrying higher margins, we expect the company to put up another quarter of continued margin expansion paving the path for near to mid-term profitability. We expect investors to expect commentary around cross-selling payments and the broader health of their customer base, as consumer and business spending continues to be under pressure.

We update our 12-month price target for PAR to $44 ($50 previously) based on a ~12x EV/Gross Profit multiple on our Q5-Q8 estimates (14x previously, as we mark to market for changes in peer multiples).

RSKD: Seasonally weaker gross margins and e-commerce related headwinds leave limited room for outperformance

Despite the potential for revenue growth acceleration in 3Q, shares have struggled to perform (-52% YTD), and we believe an inflection in revenue is likely pushed out by weakness in broader e-commerce trends. This in combination with a seasonally weaker gross margin means we see limited room for a major positive surprise this quarter, although the Street does seem to be setting a reasonably low bar in terms of gross profit growth. We expect commentary around the trends in broader e-commerce to be in focus and look for greater color around the path to profitability and the levers the company has to accelerate growth in a weaker macro tape.

We update our 12-month price target for RSKD to $4.50 ($5 previously) based on a ~2.5x EV/Gross Profit multiple on our Q9-Q12 estimates (3x previously, as we mark to market for changes in peer multiples).

NTB: Expect lower deposits and TBV declines from AOCI and looking for commentary around recent deal and impact of higher rates

We expect roughly inline quarter as higher NII is offset by modestly higher expenses. In terms of moving pieces, we expect 1) AOCI related shocks to drive another step down in TBV, although we expect this to be somewhat moderated by transfers of securities into Held for sale, 2) FX related impacts on the company's deposit base driving a decline in overall deposits (~24% of deposits in Channel Islands and the UK, with remaining in Bermuda and Cayman). Counteracting these impacts, we see limited macroeconomic impacts in the company's markets as NTB has always operated in a low growth environment, and expectations are generally conservative for organic growth. In addition, we expect the company to provide incremental details around the recently announced acquisition of Credit Suisse Trust, which, while likely relatively small, should provide some support for estimates given the valuations NTB has achieved on prior acquisitions (many times able to make acquisitions with low or no purchase price). We expect the focus to be on the pipeline of M&A opportunities and the trajectory of net interest income in the face of rapidly rising rates. We continue to believe NTB offers attractive exposure to higher interest rates, as well as solid a yield as a result of its best in class ROTCEs (GSe: ~31% in 2023) and 50% dividend payout target, and we believe opportunities for attractive bolt-on M&A provide an additional source of upside.

Our $48, 12-month price target for NTB (from $47) is based on an ~8.5x P/E on our updated Q5-Q8 estimates (8x previously, for interest rate sensitivity, and lower sensitivity to macro weakness).

New vs Old Estimates

Exhibit 96: New vs Old Estimates

Ticker	Price	Analyst	Old Estimates							New Estimates						Change						Key Risks	
	10/3/22		Rating	12m PT	Metric	2021E	2022E	2023E	2024E	Rating	12m PT	2021E	2022E	2023E	2024E	TP Upside	2021 chg	2022 chg	2023 chg	2024 chg	PT chg	Downside	Upside
V	$181.56	Will Nance	Buy	$283	NI	12,310.8	14,931.9	17,360.5	19,876.1	Buy	$267	12,310.8	14,934.2	17,110.2	19,343.7	47%	0%	0%	-1%	-3%	-6%	Weaker macro environment, slower than expected cross border recovery, competition, regulation	--
MA	$290.48	Will Nance	Buy	$465	NI	8,689.0	9,948.8	12,020.9	14,474.3	Buy	$425	8,689.0	9,907.7	11,415.2	13,602.4	46%	0%	0%	-5%	-6%	-9%	Weaker macro environment, slower than expected x-border recovery, competition, regulation	--
FIS	$76.34	Will Nance	Buy	$110	NI	4,067.8	4,209.8	4,218.6	4,454.5	Buy	$114	4,067.8	4,218.5	4,219.5	4,336.3	49%	0%	0%	0%	-3%	4%	Weaker macro environment, slower than expected x-border recovery, regulation, competition, bank consolidation	--
FISV	$95.42	Will Nance	Neutral	$110	NI	3,746.0	4,172.3	4,603.5	5,111.8	Neutral	$118	3,746.0	4,179.6	4,593.6	5,108.3	24%	0%	0%	0%	0%	7%	Weaker macro environment, regulation, competition, bank consolidation	Better than expected monetization of paymentsand core processing results from refresh cycles
GPN	$110.74	Will Nance	Neutral	$149	NI	965.5	17.7	966.7	1,185.3	Neutral	$149	965.5	-0.1	942.5	1,160.2	35%	0%	-101%	-3%	-2%	0%	Weaker macro environment, regulation, competition, slower than expected corp. T&E recovery	Strong SMB performance, larger than expected re-opening tail winds
FOUR	$43.99	Will Nance	Neutral	$47	EBITDA	124.8	227.2	295.2	401.2	Neutral	$50	124.8	226.9	289.8	407.0	14%	0%	0%	-2%	1%	6%	Weaker macro environ., regulation, competition, weaker end-to-end conversion	Stronger macro environ., stronger end-to-end conversion, strong growth in hospitality
WU	$13.84	Will Nance	Sell	$15.50	NI	818.4	876.8	537.0	521.5	Sell	$15.00	818.4	873.5	524.1	508.8	8%	0%	0%	-2%	-2%	-3%	--	Reduced pricing pressure, better macro environ., successful neo-bank traction, improving cost structure
PAR	$29.98	Will Nance	Neutral	$50	GP	62.1	82.4	104.7	130.7	Neutral	$44	62.1	86.8	113.7	137.8	47%	0%	5%	9%	5%	-12%	Weakness in ancillary products, higher competition, worse macro environ.	Strong attach rates of software products, growth in payments, higher than expected task orders, stronger macro environ.
TOST	$16.61	Will Nance	Neutral	$23	GP	336.5	531.3	837.0	1,131.3	Neutral	$23	336.5	535.6	838.1	1,128.1	38%	0%	1%	0%	0%	0%	Weaker macro environment, competitive pressure, lower than expected product adoption, vertical/geographic concentration	Stronger macro environment and higher product adoption
ESMT	$20.81	Will Nance	Buy	$27	GP	167.9	237.3	306.0	390.8	Buy	$27	167.9	239.0	309.4	395.4	30%	0%	1%	1%	1%	0%	Unfavorable regulations, lower than expected growth in integrations, and lower than expected customer acquisition	--
RELY	$10.44	Will Nance	Buy	$14.00	GP	267.0	385.6	513.0	685.9	Buy	$16.00	267.0	383.9	510.7	682.9	53%	0%	0%	0%	0%	14%	Heightened competition, unfavorable regulation, heightened fraud, and lower than expected customer acquisition/retention	--
AVDX	$8.51	Will Nance	Neutral	$9	GP	151.1	200.0	254.2	325.3	Neutral	$9	151.1	200.3	254.5	325.8	6%	0%	0%	0%	0%	0%	Loss of partnerships, less favorable supplier payment methods, and competition	Stronger than expected client wins and faster adoption of new products
GLBE	$27.82	Will Nance	Buy	$40	GP	91.4	156.9	262.7	408.1	Buy	$38	91.4	153.8	250.1	388.5	37%	0%	-2%	-5%	-5%	-5%	Adverse regulation, high vendor concentration, increased competition, and supply chain constraints	--
NVEI	$27.89	Will Nance	Neutral	$37	GP	576.8	672.5	799.5	988.2	Neutral	$37	576.8	672.5	799.5	988.2	33%	0%	0%	0%	0%	0%	Online sports betting and iGaming regulation, increased competitive pressure, and exposure to higher risk verticals	Recovery in crypto prices and trading activity, favorable online sports betting regulation
RSKD	$3.76	Will Nance	Sell	$5.00	GP	123.8	131.4	164.2	206.4	Sell	$4.50	123.8	131.7	164.2	206.4	20%	0%	0%	0%	0%	-10%	--	Higher billings/volume and better monetization of newer ancillary products
PAYO	$6.33	Will Nance	Buy	$8.50	GP	371.9	503.6	617.0	770.6	Buy	$9.50	371.9	537.8	703.1	856.5	50%	0%	7%	14%	11%	12%	Increased competition, lower than expected e-commerce growth, and adverse outcomes within the Greater Chinese market	--
FLYW	$24.08	Will Nance	Buy	$32	GP	125.4	179.6	235.5	298.5	Buy	$32	125.4	177.8	233.1	295.5	33%	0%	-1%	-1%	-1%	0%	COVID impacts, increased regulations, concentration within verticals, and competition	--
PAY	$9.93	Will Nance	Neutral	$16	GP	127.4	157.3	214.2	272.3	Neutral	$14	127.4	157.3	214.2	272.3	41%	0%	0%	0%	0%	-13%	Increased competition, increased fraud, and reliance on third-party partnerships	Stronger than expected macro environment and faster than expected client timeline
BILL	$138.18	Will Nance	Buy	$180	GP	185.8	540.1	816.0	1,171.9	Buy	$183	185.8	540.1	834.3	1,198.1	32%	0%	0%	2%	2%	2%	Lack of near-term profitability, supplier incentives, loss of accounting/bank partners, competition, and higher check usage	--
COIN	65.95	Will Nance	Sell	$51	Revenue	7,839	3,438	3,349	3,563	Sell	$51	7,839	3,497	3,425	3,600	-23%	0%	2%	2%	1%	0%	--	Higher levels of trading activity, new product launches, favorable regulation
NTB	$33.03	Will Nance	Buy	$47	Earnings	162.7	209.6	258.4	267.2	Buy	$48	162.7	213.4	264.9	270.9	45%	0%	2%	3%	1%	2%	Lower interest rates, lower cash balances, lower market	--
HOOD	10.1	Will Nance	Neutral	$11.00	Revenue	1,815	1,373	1,769	1,926	Neutral	$11.50	1,815	1,429	1,844	1,977	14%	0%	4%	4%	3%	5%	Lower activity levels, adverse regulation	Higher ancillary product attach rates, expansion of crypto ecosystem
SI	$75.73	Will Nance	Buy	$100	NI	57.1	159.1	281.3	299.0	Buy	$108	57.1	178.8	310.7	318.5	43%	0%	12%	10%	7%	8%	Lower interest rates, lower deposit balances, lower crypto activity	--

Shares of V are on the Americas Conviction List.

Source: Goldman Sachs Global Investment Research, Factset

Disclosure Appendix

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