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BLUEPAPER

Corporate & Investment Banks

Striving to Sustain Returns

Wholesale Banking's impressive returns reflect a decade of repositioning in Markets and IBD. We think improved returns are sustainable. A constructive macro and policy environment is just one driver. To lift returns even higher, unlock the value of Transaction Banking with a shift to recurring fees, services-based business models, and enhanced disclosure.

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Executive Summary

Wholesale banks are delivering high returns. A decade of structural changes in the Markets and IBD businesses has led to more efficient balance sheet use and volatility capture, laying the groundwork for a resilient performance in the pandemic. We think improved 12%+ returns are sustainable given a positive macro and policy environment – a differentiated view as most investors have priced in a normalization of returns down to 10%. We see room to go even higher and unlock hidden value through a shift in focus to Transaction Banking – and particularly the high growth payments segment. To unleash growth, focus on recurring fees in the core business and shift towards services-based models. Act quickly to fend off disruption.

Sustainably higher returns for CIBs, but with a shift in focus to Transaction Banking. Wholesale banking businesses demonstrated resilience in the pandemic, delivering the best year in a decade with revenues up 7% YoY and return on equity (ROE) of 12%. The benefits of a diversified model were clear as Markets and IBD franchises grew by 26% last year, benefiting from structural changes that have reduced dependency on balance sheet and asset prices. These gains more than offset weaknesses in rate-sensitive businesses. While policy during the pandemic helped, 2020 returns are sustainable in our view. First, the macro backdrop is constructive with 7-10% Nominal GDP growth in 2021-22, and the expectation of a stable regulatory environment after a decade of reform. Second, banks can push even higher by unlocking hidden value in Transaction Banking. The fundamentals of this business remain strong, delivering through the cycle ROE of 30-45%. Yet there has been a vast transfer of value to non-bank players in this space over the past 3 years, with payments specialists like Adyen and Square gaining over >$1TN of market capitalization as banks have lost >$1TN. Non-bank business models have significant advantages, but the structural differences between wholesale businesses and other players do not warrant this gulf in valuation. Banks can narrow the value gap, and reassert their current leading position in the midst of market disruption, by doubling down on Transaction Banking.

CIB industry ROEs of ~12% in our central case. Without the volatility and policy boost of 2020, wholesale revenues will decline. Yet we expect revenues to remain in range or above 2017-2019 levels in all but our downside scenario, with a constructive macro and policy outlook and upside potential in the Transaction Banking business. The industry cost outlook is positive: discipline (especially on compensation) across leading banks has stabilized the cost base. European banks continue to lag leaders on profitability, but most are midway through significant cost restructuring programs that will continue to bring industry cost ratios down. We estimate a range of through-the-cycle ROE of 8-13% across our three scenarios, with returns improved from the pre-pandemic range of 9-10% in all but our most pessimistic scenario. With this growth outlook in mind, we see value upside for CIBs.

Narrowing the valuation gulf with non-banks. Wholesale banking businesses get a lower multiple from investors than adjacent non-bank players, who enjoy average P/E multiples double or quadruple that of global banks. A large part of this valuation gap can be explained by how these firms are assessed – with non-banks valued for fast revenue growth while banks are valued for earnings and returns – and by the regulatory capital requirements that impact banks. Nevertheless, we think there are steps management teams can take to narrow the gap. Together these actions are equivalent to 15% or >$200BN of market capitalization for the largest banks:

- **Better disclosure now on Transaction Banking.** Investors have not rewarded banks for the strong fundamentals of this business. Transaction Banking offers stable revenues, sticky client relationships, a source of funding for the bank and a clear link to the real economy. We think more transparency in reporting can drive average valuation uplifts of 8% (up to 20% for some Global banks).
- **Actions to drive sustainable returns over the longer term.** The market is missing the fundamental value and outlook for the wholesale business model: we project sustainably higher industry returns whereas current market valuations imply that returns will revert to pre-pandemic levels. Credible actions throughout the cycle to sustain 2020-level returns can drive average valuation uplift of 7%.

C-Suite strategies to sustain returns. We see at least four levers management teams can pull to drive sustainable returns and narrow the value gap:

- **Maintain investment in scale while managing risks in Markets and IBD.** The last five years have reinforced the earnings power of first-tier Markets and IBD businesses, as the model has shifted away from risk warehousing and towards less capital-intensive activities. While there will always be risk in the business and exposure to losses from idiosyncratic events, the dynamics of the business have changed considerably as a result of post-Global Financial Crisis reforms. We estimate that a dollar of revenue now uses 21% less balance sheet and attracts 34% less VaR than 10 years ago. This structural shift was evident in the strength of these businesses during the heightened volatility of 2020 – although banks also benefited from the extraordinary policy response to shore up credit markets. Yet we continue to see a valuation gap relative to non-banks in this space, driven primarily by the high level of capital these businesses must hold relative to their risk. Banks that can successfully emphasize to investors the value of network effects, countercyclical revenues, and reduced exposure to asset prices should be able to escape the valuation trap. Sustainable revenue upside will be driven by those that can maintain their investment in scale, while also efficiently allocating capital toward growth areas like electronic trading, private markets, ESG and digital assets.

- **Optimize Transaction Banking to recoup losses of 2020.** The sharp downturn in interest rates in 2020 led to a collapse of Net Interest Income on deposits, and effectively wiped out growth from the prior three years with $12BN in lost revenues. These lost revenues can be recouped over the next cycle through optimization of the existing business – reorienting the commercial model toward recurring fee income, increasing discipline in liability management and deposit pricing, and strengthening cross-selling. Management teams who move quickly will grow now while preserving an option on the significant upside from a macro recovery when rates rise later in the cycle, when banks should see a 15-20bps increase in Net Interest Margin – equating to ~$4BN of revenues for global banks – for each 100bps increase in interest rates.
- **Position to capture >$400BN from services-based models.** Leading banks are shifting from transactional to services-based models through the development of Banking as a Service (BaaS) offerings, business to consumer (B2C) and consumer to business (C2B) initiatives, and deep sector ecosystems. These longer-term value creation plays address changing client expectations and needs, adapt to the growing ecosystem of financial service providers, and target the areas of greatest payments growth. In many instances, such offerings target clients and require capabilities that are typically outside the Transaction Bank perimeter – requiring banks to look beyond traditional wholesale models and manage across internal silos and/or work with partner networks. The optimal participation strategies for individual banks will vary based on the starting point, but banks can either play for scale or focus on deep specialization. Those who succeed can bolster the value of the wholesale model and defend against disintermediation over the next 5-10 years.
- **Integrate embedded payments assets.** The past decade has seen substantial value creation in the payments ecosystem, but banks have largely missed out on this growth to date. Non-bank payments providers have benefited from exposure to high growth (and capital light) payments business, and high levels of investment into capabilities necessary to serve client needs. But even as non-banks become more competitive, banks have valuable payments assets that exist across the group: many banks have legacy merchant services businesses and scale payments processing factories, and most have extensive wholesale and retail customer networks and rich customer data. But few are maximizing the shareholder value of these assets by managing across siloes. We argue that banks should "use or lose" these assets – by either better integrating to drive growth and scale or divesting.

No time to waste as competitive pressures build in Transaction Banking. Transaction Banking is attracting investments from a wide range of new entrants – including both banks and non-banks – who are gaining share with lower costs thanks to API-driven platforms built on the cloud. The payments space has a rich $1.4TN total addressable market (TAM) across wholesale and retail, of which non-banks have picked up ~20% market share in the last 3-5 years as plug-and-play FinTechs have entered across the value chain. In some cases, new entrants are complementing and enriching bank offerings – but the risk of disintermediation for banks is high, and non-bank activity has already contributed to a ~20% decline in banks' fee margins over the last 4 years. These trends are poised to accelerate as the pace of digitization increases, spurred on by the Covid pandemic. Regulatory barriers are also falling, enabling non-banks to expand into areas previously off-limits such as deposit-taking businesses. Central Bank Digital Currencies (CBDCs) risk further disintermediating banks, though adoption is still in the early stages, and the direction in which CBDCs will develop is far from clear. Banks that prioritize Transaction Banking now are best positioned to fend off these threats.

Scale, geography, and innovation remain critical to winning models. We continue to see scale and geography driving significant advantages. The profitability gap between first-tier US (<60% CIR) and European (>70% CIR) banks was again significant in 2020, reflecting the benefits of scale and a more favourable macro environment for US banks. In Markets and IBD, the shift away from risk-intensive business models has increased the value of scale in liquidity provision and client service. In Transaction Banking, the negative interest rate environment exacerbates differences between European and US players, and the high fixed cost of the infrastructure poses challenges for smaller banks. We estimate a wholesale ROE gap of 6% pts between leaders and laggards over the cycle.

Nevertheless, we see opportunities for specialists and those that can innovate successfully across the wholesale landscape. In Markets and IBD, smaller players can manufacture scale through alternative strategies and by using open platforms to serve clients through partnerships to deliver core technology, product and even customer distribution. In Transaction Banking, smaller players that have begun to develop services-based offerings and/or outsource legacy technology can still be competitive. Across all parts of the business, banks that can successfully allocate and monitor investment dollars – and shift the culture of the bank to support innovation and cross-business collaboration – will continue to have a significant advantage.

Value Upside Across Wholesale Banking

Wholesale banks look undervalued vs. non-banks. Investors questioned how banks would weather the pandemic-induced shock to the real economy, with the dual banking headwinds of ultra-low interest rates and rising credit costs. Wholesale banks responded with their best year in a decade, delivering 7% growth YoY as capital markets businesses provided a counter-cyclical buffer against activities more closely linked to the real economy, helped significantly by central banks underwriting the credit market. Yet valuations dropped 22% for the industry. Over the past 3 years, the valuation gap between non-banking businesses adjacent to both Transaction Banking and Markets & IBD has widened. Market cap growth has declined in CIB businesses while increasing 70-120% in non-bank firms, which now enjoy average P/E multiples double or quadruple that of Global banks. While non-banks have significant structural advantages built around capital light, agile business models and are often valued for their faster revenue growth, in our view these differences do not explain the full valuation gulf between banks and non-banks. Investors have undervalued the resilience of the diversified CIB business model and potential for upside in a constructive macro and regulatory environment, the strong fundamentals and latent value of the Transaction Banking business, and the structural reforms and counter-cyclical benefits of the Markets and IBD businesses over the last five years. We argue that banks can and should focus on transparency and growth to unlock latent value and narrow the valuation gap.

Diversified CIB business model is undervalued. Transactional flow businesses (Transaction Banking and Securities Services) were the engine of CIB growth over the years preceding the pandemic, offsetting ~55% of the decline in revenues from other parts of the CIB business between 2016 and 2019. However, there was a sharp reversal in 2020: transactional flow revenues plummeted with the steep decline in interest rates and economic activity, while Markets and IBD businesses benefited from the spike in market volatility, strong client demand for liquidity, financing and broad fiscal and monetary stimulus. Broad-based CIB business models have benefited from exposure to both sets of businesses over the past cycle.

Exhibit 1:

A significant valuation shift has taken place from banks to non-banks

Financial services valuation change ($BN)
Top 10 firms by market cap, 2017 vs 2020

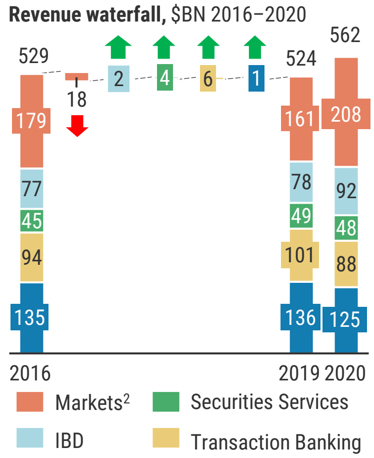
	2017	2020	Market cap. growth	P/E ratio change 2017 vs. 2020[1]	
Global banks	~1,520	~1,272	-16%	13x	**12x**
Non-bank payments firms	~749	~1,654	121%	27x	**48x**
Non-bank capital markets firms	~261	~446	71%	24x	**29x**

1. Consensus NTM PE ratios from 12/31/2017 and 12/31/2020. Source: Refinitiv Datastream, Oliver Wyman analysis.

Exhibit 2:

Transactional flows have been a growth engine of the wholesale banking business, offsetting the broader decline in CIB revenues from '16-'19

Transactional flows offset negative total CIB revenue decline on 2016–19 by ~55%
Revenue waterfall, $BN 2016–2020



Transactional flows have been a steady source of revenue in the wholesale banking business

	Rev. volatility[1]	Driver
TB & Sec. Services	5%	Rates and macro-economic growth
IBD	9%	Event-driven
Markets	13%	Volatility and spreads

1. Revenue volatility is the standard deviation of the revenue growth rates from 2010-2020. 2. Includes Macro, Credit and Equities.
Source: Coalition proprietary data, Oliver Wyman analysis.

There is a disconnect between valuations of Transaction Banking businesses inside banks and outside banks. Transaction Banking (defined here as payments and cash management, and trade finance) has strong fundamentals that compare favorably to other CIB businesses, delivering through the cycle ROE of 30-45%. The business also delivers stable revenues and earnings given client stickiness, and is a critical source of reliable low-cost funding. Yet disclosure on the economic value and performance of this business is limited, generally captured within the full perimeter of CIB or within broader corporate banking businesses – incorporating a significant drag from the Wholesale Lending balance sheet. This drives a "conglomerate discount" for the business – contributing a lower perception of value for Transaction Banking businesses within banks than for comparable businesses outside of banks. Meanwhile, the past decade has seen substantial value creation in the broader payments ecosystem, driving up the valuation of adjacent businesses outside of Wholesale banks. The market capitalization of the top 10 largest non-bank payments players are now worth ~$400M more than the top 10 banks, as the market values non-banks on revenue growth while valuing banks on earnings. This translates into non-banks generating a PE that is ~35x higher than banks.

Investors have not recognized the extent of structural reforms and resilience in Markets and IBD. Trading losses were far smaller in the pandemic-driven recession than they were in the Global Financial Crisis, in part due to the structural shifts that banks have undertaken in the last decade. Markets and IBD businesses have transformed their business models, reducing their exposure to asset prices while investing in the capabilities and infrastructure required to provide liquidity and financing (and generate steady revenues) in all market conditions. Yet investors are still valuing these businesses as primarily risk warehousing activities.

Growth upside is significant with expected resilience in returns. The valuation disconnect is particularly notable when considering the strong 2020 performance and positive growth outlook for the industry. We estimate in our central case that returns will be sustainably higher than the 2017-2019 average – and even at the low end of our projections, we expect returns to be within range of the pre-pandemic period average. We have defined three scenarios for CIB revenues over the next 3 years (described at the end of this section), and in each of these Markets and IBD soften, while Wholesale Lending and Transaction Banking slowly recover from sharper drops in 2020, supported by the positive outlook for the real economy. At the same time, leading banks have undertaken the difficult work to restructure their cost bases, and others are in the midst of significant programs, supporting a positive outlook on costs.

Our central case projects CIB ROE of ~12% by 2023, which is 2-3% pts above the 2017-2019 average. We see three components to this:

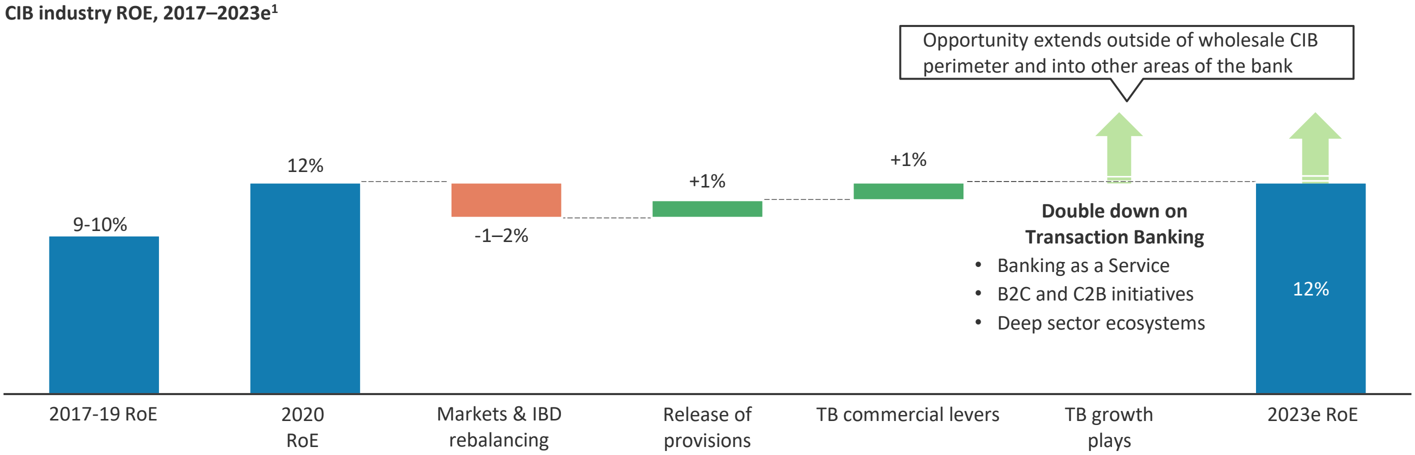
- Markets and IBD revenue will rebalance after the large swings seen through the peak of the pandemic driving a ~1-2% pts decline in ROE from the highs of 2020; however, favorable macroeconomic conditions, cost restructuring and balance sheet discipline in these businesses will sustain revenues and returns at higher levels than pre pandemic rates.
- Global banks will continue to release provisions built up during the initial economic shock of 2020, adding ~1% pt to ROE, with the upside skewed towards US banks who were more aggressive than their European counterparts in provisioning early in 2020.
- Leaders have an opportunity to outperform by doubling down on Transaction Banking, pulling multiple commercial levers to capture recurring fee income and optimize the use of the balance sheet. This will add 1% pt to ROE industry wide, with a sizeable gap between the leaders and laggards.

In the medium to long term we see three bold plays on Transaction Banking through which a further >$400BN revenues and returns upside can be captured, with these also extending outside of the wholesale CIB perimeter and into other areas of the bank. By capturing this opportunity, banks can also make the case for higher valuation multiples as their earnings becoming increasingly geared to high growth, low capital, fee-based businesses.

Exhibit 3:

We expect returns to be sustainably higher compared to the pre-pandemic period

CIB industry ROE, 2017–2023e[1]



1. Full recovery scenario. Source: Coalition proprietary data, Oliver Wyman analysis.

Narrowing the value gap. We believe there are actions banks can take to narrow the valuation mismatch with non-banks through better disclosure and a focus on the growth potential of the Transaction Banking business. These actions are equivalent to 15% or >$200BN of market capitalization for the largest banks:

- **8% valuation upside from better disclosure alone.** Despite strong fundamentals in Transaction Banking, disclosure is limited, and the true economic value of the franchise is disguised. We estimate incremental valuation upside from better disclosure to highlight the strong fundamentals of Transaction Banking economics. This could increase valuations by ~8% on average and >20% for some banks, equivalent to >$100BN in market capitalization for the largest banks, even accounting for the impact of the lending book that underpins Transaction Banking. For example, banks can provide more granular insight into specific businesses (e.g. the revenues, costs, RWAs for Payments and Cash Management (PCM), Trade and Lending), a breakdown of PCM revenues into interest income and fees, payments volumes, and more insight into Treasury loans and deposits. Greater disclosure will be a double-edged sword, as the enhanced scrutiny will push management teams to further optimize on the pricing, growth and balance sheet efficiency of the business, however, it will also make it more difficult for banks to maintain their trade secrets and will reveal when banks are under-investing. The upside from greater disclosure, however, is significant, with the positive effect evidenced by the recent improved disclosure of Santander's Getnet payments entity, on the basis of which Morgan Stanley increased their valuation by 5%.
- **7% valuation uplift from actions to drive sustainable returns through the cycle.** Investors continue to underestimate the fundamental value of the CIB business models and the potential for growth as the global economy emerges from the deep shock of the last year. Based on our analysis global banks can sustainably deliver 2020 levels of return (RoE of 12%), however the market expects the business to revert to pre-pandemic levels of return of ~9-10% RoE. This disconnect is driven in part by the market applying a CIB discount to high-returning businesses like Transaction Banking. Delivering returns of 12% could provide incremental valuation uplift of >$100BN in market capitalization for the largest banks.

Our estimates are underpinned by three scenarios for CIB revenue evolution over the next three years:

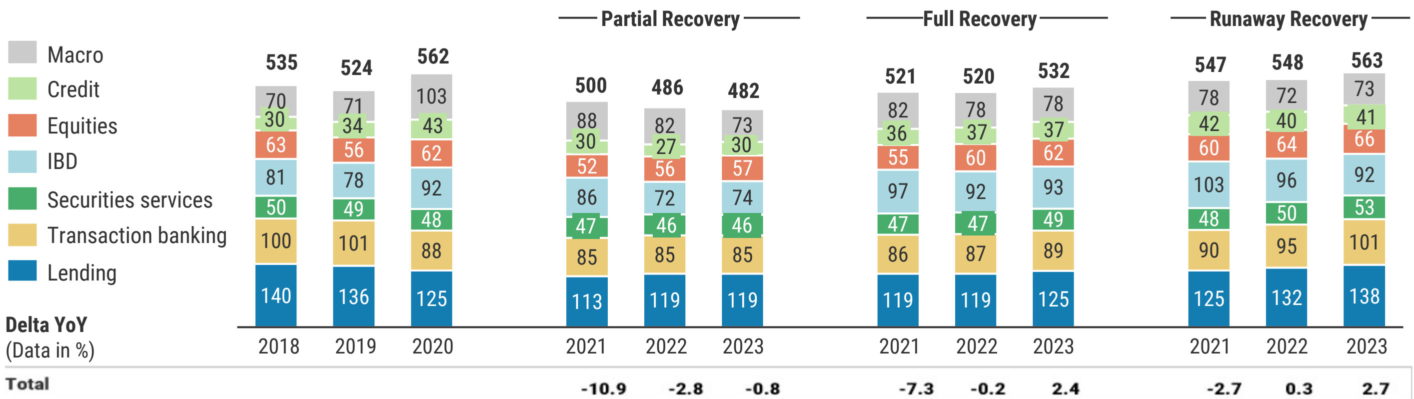
- Our central case, **Full Recovery**, assumes governments follow the American Rescue Plan Act with continued near-term fiscal stimulus over 2021-22. Fiscal and monetary policy remains accommodative over the forecast horizon. Vaccine roll-outs are successful in limiting further widespread outbreaks. There is a solid rebound in the global economy with credit defaults limited to the sectors most exposed to the pandemic.
- In our **Runaway Recovery** upside scenario, multiple rounds of stimulus supercharge the global economy. Fiscal policy remains accommodative through 2023, though monetary policy starts to tighten as QE tapers in 2021 and rates rise in 2022. Coordinated efforts by governments and the pharma sector ensure rapid, effective vaccine roll-out globally. Default rates are low at 3% due to rapid recovery and ongoing government support.

- In our **Partial Recovery** downside scenario, there is little additional near-term stimulus beyond what has been committed. Political pressures drive some fiscal tightening within the forecast period, though rates remain low and QE continues through 2023. The pandemic threat continues to evolve with new variants emerging, acting as a brake on global growth, with a weaker global recovery. Uncertainty in 2021 drives volatility back up, supporting trading businesses. Credit default rates increase to 8% as the recovery is weak and government assistance is withdrawn.

By 2023, we estimate revenue growth to rebalance and decline 1.8% from the highs of 2020 in our central case Full Recovery scenario. We estimate that this will be driven by softening in Capital Markets revenues (-5.3%), a continued favorable environment for IBD (0.4%) as the M&A boom under way has some momentum to run, and continued interest rate headwinds in Transaction Banking (0.2%) and Lending (-0.2%).

Exhibit 4:

CIB revenue projections for three modelled scenarios $BN



Source: Coalition proprietary data, Oliver Wyman analysis.

Exhibit 5:

Scenario Descriptions

	Partial Recovery	Full Recovery	Runaway Recovery
Policy measures: *Near-term fiscal stimulus*	• All temporary measures from American Rescue Plan Act expire with no additional fiscal stimulus, European countries pause on meaningful additional fiscal stimulus	• US makes some measures of American Rescue Plan Act permanent with some additional stimulus measures passes in 2021-22, moderate fiscal stimulus passed in European countries	• Many temporary measures from American Rescue Plan Act are extended permanently and administration passes a large infrastructure bill in 2021-22, with European countries also approving large fiscal stimulus
Policy measures: *Medium-term fiscal policy*	• Political pressures, debt sustainability and inflationary concerns result in fiscal tightening in 2022	• No tax increases or spending cuts as fiscal policy remains accommodative	• Fiscal policy remains accommodative through 2023 driven by public pressure to support recovery and drive to full employment
Policy measures: *Monetary policy*	• Accommodative monetary stimulus and QE continues, rates stay near zero through 2023	• Monetary policy remains loose with rates very low through 2023, QE starts to taper off in 2022 amid signs of recovery	• Growing inflationary pressures result in rates rises in 2022 and withdrawal of QE in late 2021
Policy measures: *Trade*	• Geopolitical tensions escalate resulting in increasing trade barriers	• Geopolitical and trade tensions gradually ease, with rapid thaw between US and Europe	• Geopolitical tensions significantly de-escalate which results in widespread easing of trade barriers (including US and China)
Pandemic evolution	• Variants continue to emerge which are resistant to current vaccines • Pandemic hotspots continue to flare across globe resulting in opening and closing of borders and periodic lockdowns	• Vaccine rollout on schedule, herd immunity reached in developed countries during late summer • Isolated outbreaks in some developing countries persist, but borders largely reopen, lockdowns are absent from developed countries	• New vaccines and increased distribution accelerate efforts, herd immunity reached in developed countries in spring/early summer • Coordinated effort by governments and pharma sector ensure rapid rollout of vaccines in developing countries • Borders and economies re-open and stay open
Macro environment	• Weak global recovery • Global GDP increases to 4.7% in 2021, with recoveries of 2-3% in Europe and US • US unemployment rate stays high at 7.5% in 2021, with persistent unemployment at 6.9% in 2022 • Falling global trade • Global indices down 10-20% in 2021 • Volatility in 2021 due to pandemic and stimulus uncertainty, but in 2022-23 is subdued by low growth, low rates and ongoing QE	• Solid rebound in global economy led by Asia • Global GDP increases by 6.4% in 2021; European and US economies grow 4-7% • US unemployment rate drops to 5.1% in 2021, and falls further to 3.9% in 2022 • Trade flows gradually recover to pre-pandemic levels • Global indices grow 2-5% in 2021 • Volatility in 2021 and 2022 drives fiscal stimulus and inflation concerns	• Surging global economy as policy response and pent up demand exceed expectations • Global GDP rises 8.1% in 2021; European and US economies grow by 5-10% • US labor market rebounds with unemployment dropping to 4.8% in 2021, and 3.5% in 2022 • Sharp rebound in trade as economies re-open • Global indices rise 10-15% in 2021 • Heightened volatility in 2021 and 2022 given investor concerns over stimulus and inflation
Yield curve	• Yield curve flattens on expectations of weak recovery • 10y T rates at 1.35 by 4Q21	• Moderate steepening of the yield curve • 10y T rates at 1.70 by 4Q21	• Sharp steepening of the yield curve • 10y T rates at 2.00 by 4Q21
Credit	• Default rates at 8% as recovery is weak and government assistance is withdrawn • Credit spreads widen to 150 bps (IG), and 600 bps (HY and Loans)	• Default rates at 6% as defaults are contained to sectors most exposed to pandemic shock • Credit spreads are 100 bps (IG), 350 bps (HY) and 400 bps (Loans) on steady recovery	• Default rates at 3% as rapid recovery and continued government backstop results in few defaults • Credit spreads narrow to 80 bps (IG), 300 bps (HY) and 370 bps (Loans)

Source: Oliver Wyman analysis, Morgan Stanley Research.

Double Down on Transaction Banking

- **Transaction Banking is undervalued.** Strong fundamentals aren't fully recognized by the market. And while banks have missed out on >$1TN value creation in the broader payments ecosystem as nimbler non-banks have captured growth, we believe the market understates the latent value of wholesale Transaction Banking business models.
- To sustain CIB returns of 12% ROE through the cycle and attract higher valuations – while also positioning for future growth – Transaction Bank management teams must:
  - **Optimize:** Reset the commercial model and optimize the balance sheet to replace revenues lost in 2020 and build a more resilient fee-based business model that is geared to upside as rates recover
  - **Grow:** Gear to capture >$400BN in medium-term revenue opportunity from shifting to services-based models such as Banking-as-a-Service ventures, offerings targeting B2C and C2B flows and deep sector ecosystems
  - **Integrate:** 'Use or lose' group-wide payments assets to narrow the valuation disconnect between banks and non-banks and minimize risk of disintermediation – or realize external value through divestment
- Together, these levers can drive a 6-8% pts uplift in Transaction Banking ROE by 2023, and deliver upside over the medium-term
- Better disclosure on Transaction Banking economics can drive 8% valuation uplift for CIBs

Hidden Value in Transaction Banking

The market has not fully recognized solid fundamentals. Transaction Banking is largely an infrastructure and technology business with strong fundamentals that compare favorably to other parts of CIB. This is particularly true of the Payments and Cash Management business, given low levels of capital consumption for these activities. Transaction Banking revenue volatility is 2-3x lower than Capital Market products, and client stickiness related to core systems integration makes this business a stable source of earnings. The business is also a critical source of reliable low-cost funding for the bank, bringing in deposits at up to 30bps[1] lower cost than Wholesale funding. Overall, the business standalone delivers through the cycle ROE of 30-45%, even delivering 30% ROE in 2020 during the pandemic. Yet the business is largely valued like the rest of CIB – as a risk and balance sheet intensive business.

Banks have missed out on the substantial value growth in payments. The past decade has seen exceptional value creation in the broader payments ecosystem (defined to include both retail banking payments and non-bank payment firms such as card schemes, acquirers, payments processers and adjacent providers). This ecosystem delivered ~$1.4TN in revenue in 2020. Of that market, non-bank players account for ~20% of total revenues, equivalent to the size of wholesale Payments and Cash Management revenues – yet these businesses are attracting on average ~35x higher price-to-earnings multiples than banks and the market capitalization of the top 10 largest non-bank payments players are now worth ~$400M more than the top 10 banks. >$1TN has been added to the market capitalization of non-bank players such as Square, Adyen and MasterCard over the past three years, with banks having lost >$1TN over the same period.

1 Goldman Sachs 4Q20 Strategic Update Presentation

Exhibit 6:

Banks are the market share leaders in most PCM products across wholesale and retail but are comparatively less well positioned for growth vs. non-banks

Payments ecosystem market map – 2020 revenues, growth outlook and P/E multiples

		Banks[3] (BN)	Payment networks (BN)	Non-bank acquirers (BN)	Payment infrastructure & adjacent providers (BN)
Wholesale Payments & Cash management	Net interest income	$130			
	Recurring fees	$30	<$5	$20	$25
	Transactional fees	$70	$15	$25	
	Linked-FX	$35	<$5	<$5	
Retail & merchant payments	Net interest income	$600			
	Transactional fees[1]	$190	$75	$35	$20
	Account fees[2]	$65		$30	
Value-added services	E.g. terminal fees, analytics, reporting, cyber and fraud	<$5	$10	$20	<$5
2020 Revenues		$1120	$105	$135	$50
Average Consensus NTM P/Es[4]		12x	38x	58x	27x

Outlook
- Strong growth
- Modest growth
- Modest pressure
- Strong pressure

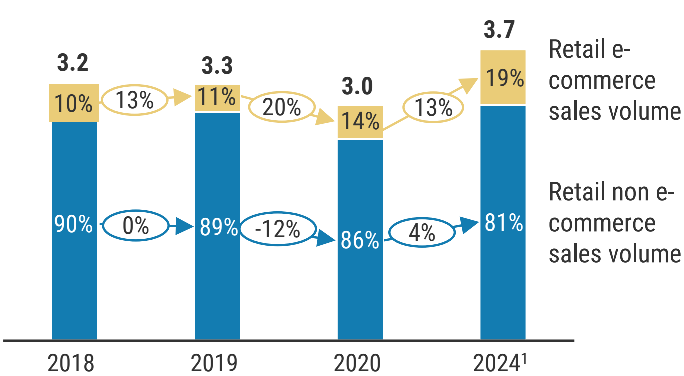
1. Transactional fees includes issuer and acquirer-based fees; 2. Account fees include those charged to account holders, including ACH, cheque processing and overdraft fees; 3. Includes full banking industry; for all other categories based on latest data available. Revenues from card issuing business segments from payment networks have been allocated to Banks. 4. Consensus NTM P/E ratios from 12/31/2020 For banks, average based on global banks. Source: Refinitiv Datastream, Coalition proprietary data, Oliver Wyman analysis, company annual reports and investor presentations.

But non-bank advantages are not insurmountable. This valuation disconnect is only partially explained by the advantages of non-bank business models – many of which are also available to banks. Non-banks benefit from concentration in the high growth sector of e-commerce – a segment that has fueled payments growth and benefited from changes in consumer and business behaviours that have emerged during the pandemic.

Exhibit 7:

E-commerce is supercharging growth in payments. This trend has been accelerated by the pandemic with growth in retail sales driven by e-commerce in the US offsetting much of the decline in non-e-commerce volumes

US retail sales volumes, $TN



1. We assume total spending grows at 7% CAGR 2021-2022 and then at a normalized 4% CAGR in 2023-2024. Source: eMarketer (Statista), Morgan Stanley Research estimate, Oliver Wyman analysis.

Non-bank payments providers are also benefiting from more agile approaches to meeting client needs. They are enabling acceptance of a broad set of payment types (from card, to account-to-account, to digital wallets) and providing a holistic view of the client. These players are often providing more than just payment acceptance as they are integrating their payments technology in their core business management software and developing additional value-added services to meet client needs, such as loyalty solutions and buy-now-pay-later lending offerings. While there will always be a valuation differential driven by the difference in capital consumption and regulatory overhang between banks and non-banks, banks can and should attempt to narrow the valuation disconnect.

Overview of non-bank payments players

Non-bank players in the Payments ecosystem include established incumbents and a wide range of FinTechs and consortia. The rapid growth and increased market share of this segment present both opportunities and challenges for Wholesale banks.

Payment networks: These are companies that provide the network used to connect acquiring banks (i.e. those that support merchants) to issuing banks (those that issued the card to the customer). The payment network is responsible for connecting the two banks, supporting the authorization of the payment and the clearing and settlement of the transaction. These networks receive a network fee from merchant processors and from card issuers on each transaction. Example networks include Visa, MasterCard, UnionPay, and American Express.

Merchant acquirers: These are the owners and managers of the payments relationship with merchants who provide merchants access to card and electronic payments by working with merchant processor partners to facilitate the transaction. They earn fees from merchants on each transaction and use a portion of the spread to facilitate the transaction by paying card issuers (interchange), processors, and networks. This group includes traditional merchant acquirers (e.g. FIS post Worldpay acquisition), newer, fast growing players such as software providers (e.g. business management software) that have integrated payment processing capabilities thus becoming acquirers (e.g. Square, Shopify, Adyen), and end-to-end players who own relationships with both merchants and consumers (e.g. PayPal).

Payment infrastructure and adjacent providers: These are a wide variety of companies that include both electronic payment rails and companies that provide services adjacent to payments. Electronic payment rails companies include traditional cooperatives and consortiums (e.g. SWIFT) as well as newer companies that leverage distributed ledgers (e.g. Ripple). Additionally, this category includes service providers for payment adjacent areas, including Money Transfer / Remittance services (e.g. Transferwise, Remitly) and FX providers (e.g. MoneyCorp); pre-payment service or "source to pay" providers (e.g. Coupa, Basware, Tradeshift) that help facilitate sourcing, procurement, and invoicing; Treasury Management Systems and Payment Hubs providers (e.g. Kyribia, Ion); Accounts Payable and Accounts Receivables automation providers (e.g. AvidXchange, High Radius, Bill.com); "Buy Now Pay Later" point of sale credit companies (e.g. Zilch); and fraud management companies (e.g. Quantexa).

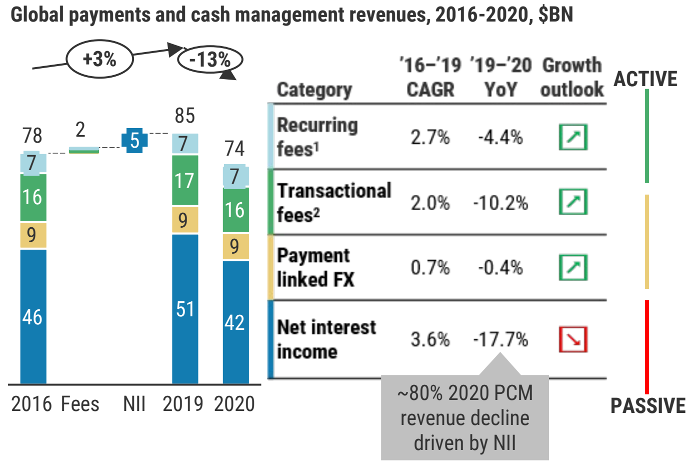
Optimize: To Recoup Lost Revenues of 2020

Banks should rebuild around a fee-based model. The pandemic has exposed underlying vulnerabilities in the Transaction Banking business model, with $12BN revenues lost in 2020. The traditional Transaction Banking business model is highly geared to what are in effect 'passive' revenue streams driven largely by interest rates: 75% of growth in PCM revenues from 2016 to 2019 came from Net Interest Income. While this was a boon for the whole CIB industry over the past cycle, these gains were largely wiped out with the steep interest rate declines of 2020.

Exhibit 8:

Transaction Banks can shift to more resilient recurring fee income to recover lost revenue from NIM compression

Global payments and cash management revenues, 2016-2020, $BN



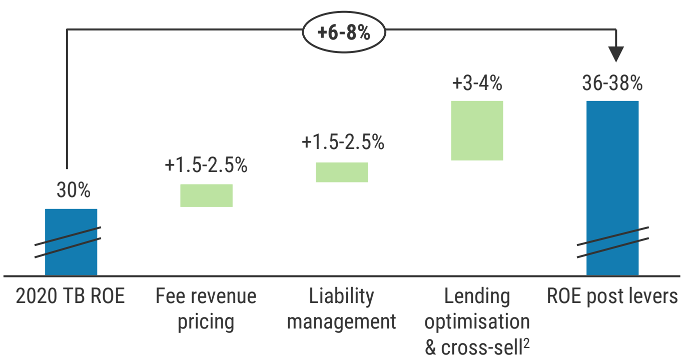
1. Recurring fees include Liquidity and account management fees; 2. Transactional fees include Payments and receivables/collections and cards. Source: Coalition proprietary data, Oliver Wyman analysis.

This shift in fortunes for the Transaction Banking business provides an opportunity – and an imperative – for the industry to reset the commercial model with a shift from rate-driven NII to fee-based revenue. Banks must transition to a model that is more aligned to non-banks – who drive >80% of PCM revenues from recurring fees, vs. <20% for banks. Delivering this change is operationally challenging – including data limitations and cultural barriers – yet the commercial pressures of reduced rates make this shift an imperative for management teams. Banks can also optimize liability management, drive better returns on the Lending balance sheet, and improve cross-sell. Together, these actions can drive $16BN revenue gains and 6-8% pts of ROE uplift (on a 30% starting ROE) over the cycle, more than recouping the losses of 2020.

Exhibit 9:

Transaction Banks can generate 6-8% pts ROE uplift in the near-term from increased pricing and balance sheet discipline

Transaction Banking[1] ROE uplift from near-term levers



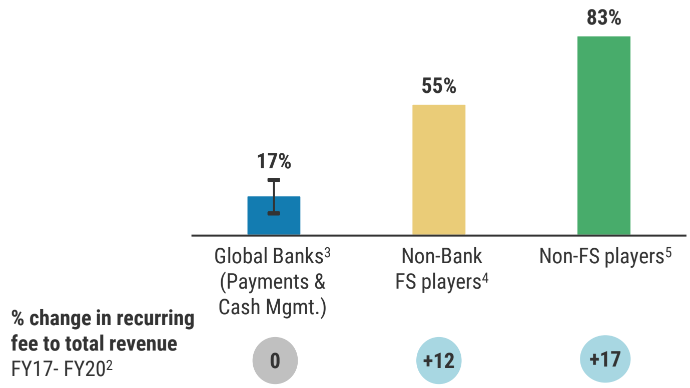
1. Includes Payments and receivables, cards, liquidity and account balances, traditional trade, supply chain finance, structured trade finance, payments-linked FX and trade-linked FX; 2. Includes cross-sell from lending and linked-FX. Source: Coalition proprietary data, Oliver Wyman analysis.

Data-led pricing discipline can drive 10-20% growth in fees. Pricing disciplines in Transaction Banking are often weak. Rising rates over the last cycle in many markets made capturing deposits the priority. Those deposits are now worth considerably less to the bank. Fees are often waived, sometimes for over 5 years, in order to win clients' business. Pricing data is often poor and pricing agreements rely on judgement of relationship managers (RMs), rather than data science. In our central case outlook, we don't expect policy rates to rise until after 2022. Banks need to reset the commercial model away from interest-rate driven NII and in favor of recurring fee revenue such as channel fees, servicing fees and subscription pricing fees. These earnings are more stable, more valuable, and more resilient in a downturn than interest-rate driven NII. Even transactional fees are less attractive than recurring fees, as they are linked to GDP and client demand and more subject to margin compression

Exhibit 10:

Non-bank payment providers generate 4x higher recurring fee income than banks

Share of recurring fees to total revenue[1] FY19/20[2]



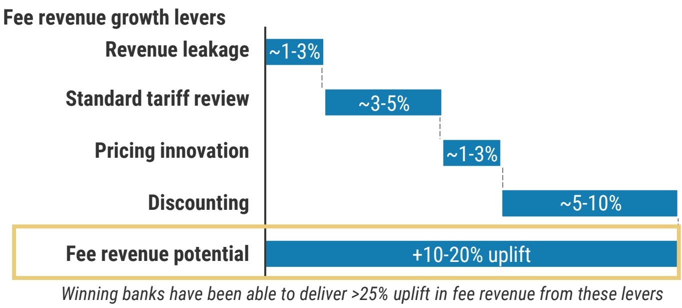
1. Recurring fees refers to subscription-based fees and revenue not directly linked to transactions. For Global Banks, this includes channel fees, servicing fees, account maintenance, recurring value-added service revenue etc. | 2. Latest data available where FY20 is unavailable | 3. Coalition Index Banks | 4. Includes stock exchange and financial information companies and neobanks | 5. Includes software companies (e.g Microsoft, Adobe) | Source: Coalition proprietary data, company annual reports, Oliver Wyman analysis.

To shift to a more fee-based model, banks should:

- **Reduce revenue leakage** from billing errors and data management through one-off historical reviews, and investment in modernizing billing systems to capture client data from across the relationship.
- **Re-set standard pricing tariffs**, which will be immediately passed through to clients on standard tariffs, and provide a higher baseline for discounted tariffs.
- **Introduce innovative value-based pricing models** such as dynamic relationship-based pricing for CIB clients, and subscription or packaged pricing for small business clients, together with providing RMs with better data and insight into achievable pricing outcomes.
- **Review discounts and fee waivers**, removing value-destructive discounts and better align discounting to client value. There is often limited correlation between discounting and client relationship value. Our work across the industry shows that around a quarter of Transaction Banking discounting is granted to clients that deliver returns below the cost of capital over a multi-year horizon. Removing or renegotiating these discounts to sub-hurdle clients could deliver a 5-10% pt uplift in fee revenue for Transaction Banking. Banks can invest in analytical tools to provide RMs pricing support and reduce the reliance on RM discretion, while also aligning RM incentives, to manage against inappropriate discounts.

Exhibit 11:

Optimizing the commercial model could deliver 10-20% growth in fee income



Source: Oliver Wyman analysis.

Improved liability management can optimize current footprint. The Transaction Bank sits at the heart of the core function of a bank: liability transformation. Low cost, sticky deposits are gathered in tandem with PCM and trade activities, and these are then used to fund the asset side of the balance sheet. Yet for many banks, asset and liability management has become disconnected, and liabilities are often mis-priced; we see opportunities to extract value from more dynamic and data-driven liability pricing:

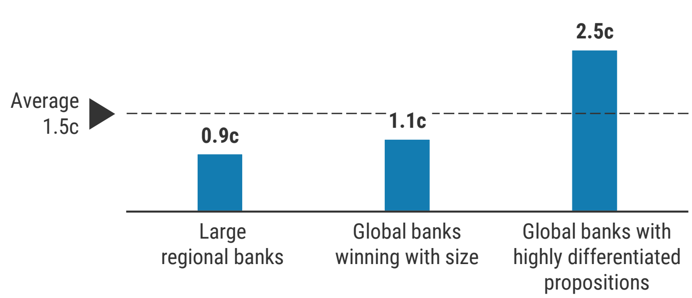
- **Modernize Funds Transfer Pricing (FTP).** Group-level FTP schemes that define the value of Transaction Bank deposits to the Group are often rigid, insufficiently granular, and not consistently aligned to changing deposit values. This can incentivize improper behaviors and muddle the value story for the Transaction Bank. As an example, 2020 saw increases of >15% in CIB TB deposits held by global banks – and while FTP schemes compensated Transaction Banks for these deposits, we estimate that they resulted in an ROE drag of 20-30 bps due to the low yield of non-lending assets in which they were placed. To modernize FTP processes and drive deposit gathering behavior that is more aligned with bank funding requirements, banks can use more granular segments when assigning liquidity and duration characteristics to better value deposits and deploy a more comprehensive set of liquidity constraints in FTP calculations.
- **Charge for negative rates.** In Europe, interest rates have now been negative for over five years. Despite this new normal, many banks have been reluctant to charge clients for negative-yielding deposits. We see this as a critical lever for incentivizing appropriate deposit gathering behavior and extracting value, and estimate that banks that do charge for negative rates can generate an additional 50-100 basis points of ROE overall.
- **Optimize client level pricing.** Finally, we see upside for banks that optimize client level deposit pricing through increased sophistication and granularity, reflecting an understanding of client-specific dynamics. Leading banks consider a client's rate sensitivity, the expected stickiness and volatility of the deposits, and the fully loaded deposit value when pricing deposits. In geographies that have had higher rate environments in recent years (e.g. the US, pockets of Asia), we have observed NII uplifts of 10-15% for banks that successfully implement data-driven deposit pricing enhancements. Yet, data quality remains a current barrier to this tactic for many banks.

Strengthen discipline on credit extension and monetization. There is also optimization to be had on the asset side of the balance sheet. Traditionally, relationship lending – in the form of term loans or revolving credit facilities – has been seen as the entry ticket to access the valuable Transaction Banking wallet. Many corporates explicitly set Treasury policies to state that Transaction Banking and FX wallet can only be allocated to banks participating in their credit facility. Yet, for the CIB segment, standalone returns for vanilla lending are low, at 4% ROE on average. Given differences in product portfolios, data limitations, and process challenges around holding bankers accountable for credit decisions, many banks continue to lend too much for too little return. The disparities are significant: leading global banks deliver 2.5x the level of cross-sell on lending balance sheet as regional banks through a culture of cross-sell. If the laggards were to narrow the gap to peers – either by rationing lending balance sheet, or by more systematically driving cross-sell – they could add an average of 2-3% pts to Transaction Banking ROE.

Exhibit 12:

Banks are still lending too much for too little – laggards have significant upside from better discipline

2020 Payments and Cash Management cents revenue per $1 of vanilla loans balance sheet, average



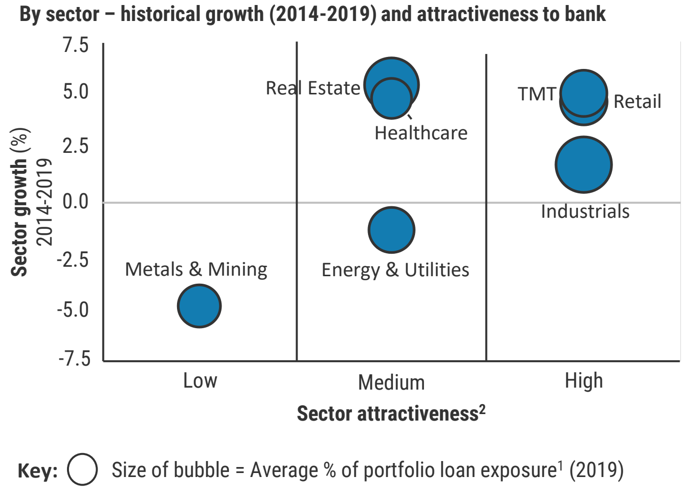
Source: Coalition proprietary data, company financial statements.

However, over time, the link between lending and Transaction Banking is weakening, creating opportunities for banks to be far more selective in the deployment of credit. Transaction Banking mandates are increasingly being awarded by departments other than Treasury – for example by Sales, Marketing or Product Management. Sales cycles are moving away from request-for-proposal (RFP) approaches, to joint venturing and co-creation with qualified partners. Switching costs are lower, making it easier for clients to onboard new providers and diversify away from core lending partners. And some of the most attractive and fastest growing client prospects tend to have low financing requirements, for example technology or platform businesses. Leading banks are accelerating returns growth by proactively skewing their client portfolio to the most attractive sectors, and thereby reducing dependency on lending.

Medium-term upside for those who act quickly. By resetting the business model to a more resilient fee-based one, banks who move quickly will be positioned for even more upside. As rates recover in the medium term, particularly in the US and Asia, we estimate upside of 15-20bps in Net Interest Margin – equating to ~$4BN of revenues for global banks – for every 100bps increase in rates. Further upside can be captured from the bold medium-term plays explored in this paper.

Exhibit 13:

Banks should focus on sectors with low capital intensity and high growth



1. Average for selection of 4 global banks; 2. Sector attractiveness for payments based on Accounts Payable/Accounts Receivable volumes (higher volumes indicate greater payments revenue and stickier relationships) and lower lending needs (lower lending needs allow banks to win revenue in more capital efficient manner). Source: US Bureau of Economic Analysis, Annual reports, IRS, Oliver Wyman analysis.

New payments structures are changing the game

Banks need to keep their eye on the creation and use of central bank digital currencies (CBDCs). Over the past year, there has been a growing wave of interest in the topic as central banks look to deploy distributed ledger technology to digitize central bank clearing and settlement, and to pre-empt the emergence of private stablecoins as an alternative to fiat currencies. Though still in the early stages of adoption, most major economies are actively pursuing CBDC initiatives with scope for them to bring a step-change in payment efficiency, convenience, financial inclusion, and automation. Some countries are already in more advanced stages, such as Sweden and China who are in the 'late pilot' stage. There are also private firms launching their own digital currencies, for example, Facebook's Diem, which is backed by an association of member corporations rather than a central bank.

The creation of CBDCs poses a risk to the banking industry. CBDCs could develop in a number of directions, with different levels of disintermediation for incumbent banks. The key determining factor for the nature and severity of risks posed to banks is the evolution of the distribution model for CBDC. One potential outcome is a centralized model where the central bank has direct access to a centralized ledger. Alternatively, decentralized ledgers could be established with parts of the service delegated to private actors (e.g. banks, payment service providers). A centralized distribution model would pose greater risks to banks:

- Deposits being placed directly with central banks, which would fundamentally change the banking business model, increasing banks' funding costs as low rate deposits become scarcer and/or limit banks' abilities to support credit activities
- In stress events companies may view CDBCs as a safe haven as they might trust the credit worthiness of the central bank over that of their banking partner, creating liquidity issues at a time when banks can least afford them

However, we view a decentralized model as the most likely outcome in most geographies as it is very challenging for central banks to manage everything on their own account. In addition, central banks are conscious of the adverse impacts a centralized model could have on the banking industry for execution and settlement. While this model has fewer risks to the banking industry than a centralized model, risks still exist, including:

- Instant settlement resulting in lower Net Interest Margins (NIM), lower transaction costs and fees
- Central banks partnering with non-banks to deliver parts of the value chain, and thus facilitating loss of bank share

What should banks do to prepare for the introduction of CBDCs? In geographies where a centralized model is pursued, banks should identify their preferred regulatory policies and advocate for them. Questions to consider are: should there be limits on the amount of CBDC? should governments be required to increase deposit insurance during a crisis to prevent a flight to CBDC? will central banks ensure that rates provided reflect the lower credit risks associated with central banks, including the use of negative rates in low interest rate environments? In geographies where a decentralized model is pursued, banks should position themselves to be trusted Central Bank partners across the value chain, including supporting customer due diligence, front-end interfaces, and merchant service capabilities.

Independent of the distribution model, by pursing the recommendations detailed throughout this report, banks will be better prepared for a world where CBDCs are prevalent. Improving payment and cash management capabilities and solutions and targeting clients and sectors with greater AR and AP needs will help ensure stickier relationships as clients will be more likely to be dependent on a bank's full suite of capabilities. By increasing the share of fee revenue, banks are more resilient to a loss of NII associated with a reduction in their deposit base, and potential decreases in NIM from instant settlement. By being smarter about their lending opportunities, banks can help ensure that a reduction in their liquidity base is less painful.

Grow: Target Bold Value Creation

Medium-term revenue opportunity of >$400BN from shifts to a services-based model. Market structure change threatens the legacy business model, yet it also opens up an attractive growth opportunity for those able to capture it. We see three bold plays that banks can pursue to defend against disruption and create value: developing Banking as a Service (BaaS) solutions, doubling down on B2C and C2B opportunities, and building bank-led sector ecosystems. We estimate that banks can gain >$400BN in additional revenues by 2030 from these solutions, equivalent to the entire existing wholesale Transaction Banking revenue pool today.

Disruption sets the scene for longer-term strategy. Fundamental changes in market structure are afoot, most notably the growing prevalence of central bank mandated real-time payments and digital ledger technologies that are forcing the modernization of payment rails. Against this backdrop, clients are increasingly expecting 24/7 global and real-time payment and liquidity management services, all delivered in an intuitive and efficient way and embedded into their businesses. New competitors are bringing lower cost cloud-based solutions, integrated value-chain offerings, and digital wallets to market – prompting a wave of technology innovation from established players. There is increased dissatisfaction with bank solutions, and the barriers to switching banks are reducing. While ~85% of corporate treasurers feel that best in class products are critical to the banking relationship, less than half believe that banks are delivering these [2] .

These forces are driving changes in market structure that are breaking apart the legacy 'vertically integrated' model in which banks own the customer, product provision and processing layers. This legacy model is facilitated by a number of crucial advantages banks have historically held, including sticky client relationships, ownership of deposits and scale. But increasingly new entrants are disrupting this model. If banks fail to adapt, they risk partial disintermediation in which non-banks own the front to back payments value chain for many of the highest return markets and segments. While banks currently remain advantaged providers of much of the wholesale payments value chain, there is early evidence of the value chain breaking down in parts of the market already, as described in *Asia: The canary in the coalmine for legacy Transaction Banking*.

2 Source: CGI Transaction Banking Survey 2020

Driving forces of disruption, competition and market structure

- **New entrants are gaining share.** Today, the competition for Wholesale bank Transaction Banking businesses comes mostly from incumbents. But new entrants like Goldman Sachs and challenger banks are gaining share with lower costs thanks to API-driven platforms built on the cloud. Non-banks are picking up share as plug and play FinTechs on various sides of the equation (payments, reporting, transaction data services etc) are moving in via partnerships or standalone offerings. Over the last 3-5 years, the non-banks in this space have pulled in $290BN in revenues in the payments and cash management space across wholesale and retail, now representing 20% of the total. Technological market developments and evolving client expectations set the backdrop for further potential disruption.
- **One of the barriers to entry for non-banks is deposits, which are already becoming less attractive in Europe and Japan given negative rates.** While liquidity and deposit management are currently a barrier to entry to meaningful scale in Transaction Banking, this is beginning to fray at the edges given persistent negative rates in Europe and Japan and as bank regulators relax barriers to the deposits business in the US. With negative rates, Europe is in the eye of this storm as banks themselves offer corporate clients cheaper alternatives to excess deposits which they have to charge for. This intensifying trend is forcing corporate treasurers to look for more innovative ways to manage liquidity.
- **FinTech disintermediation is poised to accelerate as regulatory barriers fall.** Corporates can increasingly partner directly with FinTechs to launch payment solutions that distance banks from end customers. We see this happening already in Asia. In the US, the FinTech Banking Charter and ILC (Industrial Loan Corporation) approval processes have picked up steam, enabling non-banks to enter the deposit gathering business. So far this has been limited to non-bank financial institutions like Square, but we shouldn't be surprised to see a broader set of non-banks apply – especially companies like Walmart, which has had its eye on the ILC charter for many decades.

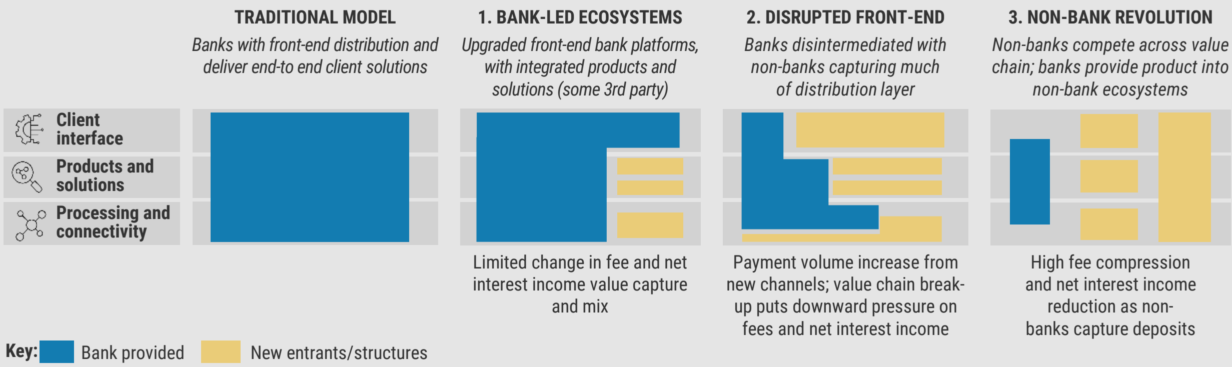
Based on these driving forces, we see three key scenarios for how the market structure could evolve, underscoring the need for banks to move quickly

- In our first scenario, **Bank-Led Ecosystems** prevail as banks are able to upgrade front-end offerings and continue to dominate across the value chain of products and solutions, maintaining client stickiness and pricing power. We are starting to see examples of bank-led ecosystems play out, through solutions launched for specific client segments by many global banks.
- In our second scenario, non-bank players establish ownership of the client interface in a **Disrupted Front-End** model, enabling clients to plug into multiple ecosystems. Front-end service providers still rely on banks for modular product solutions and the back-end payment rails, but the value chain is broken up and there is significant erosion to banks' ability to drive recurring fee-based revenues and innovate value-added services. Examples of this model are emerging through Banking-as-a-Service portal offerings that enable a more modular approach.
- In our third and most disruptive scenario, a **Non-Bank Revolution** sees non-banks compete across the value chain, driving massive fee compression driven by lower cost payment rails, such as digital wallets. This scenario also contemplates a negative impact on bank NII from a loss of float as the bulk of payments shifts to real-time and from non-bank players engaging directly in the core bank proposition of deposit-taking. In Asia we see examples of this materializing already where non-banks capture the front-to-bank payments value chain.

Exhibit 14:

Banks that fail to adapt to changing market structure risk full disintermediation

Potential future market structure scenarios in wholesale payments and cash management



Source: Oliver Wyman analysis.

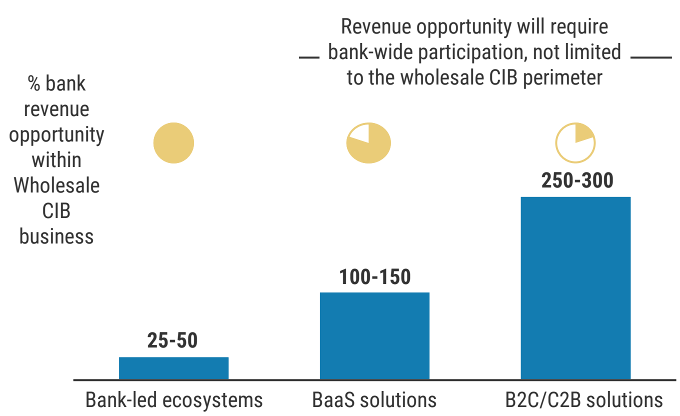
In practice we expect each of these scenarios to play out to different degrees in different sections of the market.

Three bold plays to capture growth. But some banks are also uniquely positioned to capture a wave of growth in payments, drawing on their assets. They have large and loyal customer networks that few FinTechs can replicate. They have banking licenses and connectivity to clearing systems. Some have scale infrastructure to process payments at low unit cost. These banks can deliver on three bold plays for value creation, capitalizing on new market structures and client-led demand.

Exhibit 15:

Three bold growth plays can drive >$400BN in Total Addressable Market for the industry

2030 Total Addressable Market, $BN



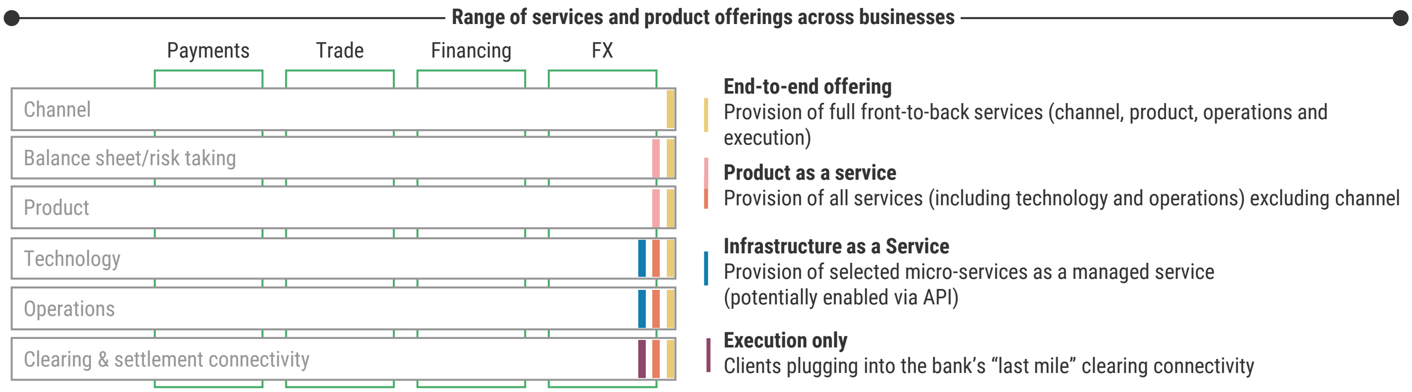
Source: Oliver Wyman analysis.

- **Build Banking-as-a-Service (BaaS) solutions.** New business models are emerging that can supercharge growth for Transaction Banks. The wholesale BaaS market could represent a $100-150BN opportunity by 2030. Banks can provide embedded financial products to third parties via APIs, and leverage existing assets: product capability, technology and operations, balance sheet, and banking licenses. There are a wide range of BaaS business models emerging across Transaction Banking and related products, ranging from full end-to-end, white-labelled services, to selective 'last mile' clearing connectivity.

Exhibit 16:

We see four key archetypes of BaaS models, spanning a range of services and product offerings across businesses

Framing the BaaS archetypes set



Source: Oliver Wyman analysis.

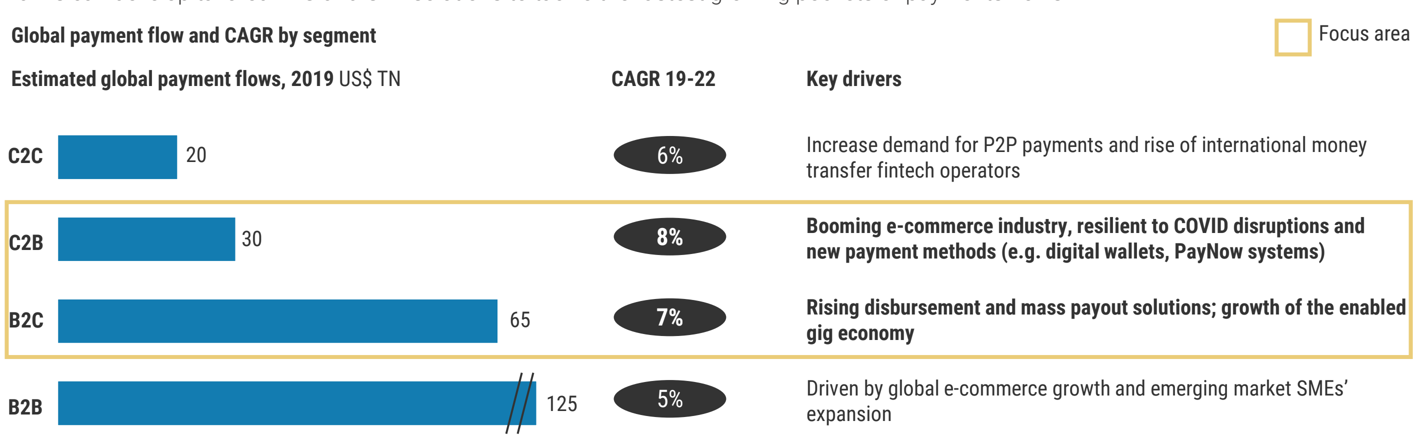
Partners include smaller banks who increasingly struggle to cover the fixed costs of the Transaction Banking business. Banks spend a total of >$150BN on payments IT and operations, yet many regional banks face cost-income ratios >90% and are struggling with the cost of enabling new market infrastructure. We see a total outsourcing revenue opportunity of $50BN in providing infrastructure to sub-scale banks by 2030. New opportunities also exist to provide embedded financial products (from lending to payments to FX) to non-bank platform businesses. B2B platforms are forecast by Gartner to represent 75% of B2B procurement by 2025, and increasingly are looking to enrich their offering by providing embedded financial products, such as seller financing, embedded deposit accounts or supply chain finance. Platform businesses are looking to partner with banks and FinTechs to provide these capabilities

Across the range of opportunities, BaaS offers incumbent banks the opportunity to access new customers at scale and in a cost-effective way, and to add scale to existing platforms to lower unit costs in the core business. But the bar is high. Partners require modern, modular product offerings; direct API connectivity; fully digital customer experience; and the ability to stand up a new venture in months not years. Early movers include Goldman Sachs and Citi, who have partnered with Stripe Treasury to provide embedded cash management services, and Standard Chartered, which has launched the Nexus BaaS platform.

- **Double down on B2C and C2B opportunities.** While the business-to-business (B2B) wholesale payments market that incumbent Transaction Banks serve is the largest market in volume terms, it is also the slowest growth market. Banks can target solutions that link corporates and end retail customers in order to capture the growth in the fastest growing business-to-consumer (B2C) and consumer-to-business (C2B) payments flows.

Exhibit 17:

Banks can develop tailored B2C and C2B solutions to tackle the fastest growing pockets of payments flows



Source: Oliver Wyman Analysis, IMF, Federal Reserve Bank, Statista (E-marketer).

While non-bank merchant services providers have built significant beachheads here, there are opportunities for banks to build targeted propositions that serve these client needs and capture the growth. Examples of successful propositions include DBS, which has built a solution to support real-time insurance claim settlement using real-time payments, allowing insurance companies to improve their customer experience, and reduce fraud and operational cost. Platform business models are also driving new opportunities, for example mass disbursement solutions for gig economy businesses. Together the B2C/C2B market represents a $250-300BN revenue opportunity for the industry by 2030. But banks will need to work hard to capture this opportunity, as it is heavily competed by non-bank specialists who can often build better propositions to meet end customer needs faster. For example, Stripe developed the driver payout capability for Lyft, a US-based ridesharing platform. To win here, banks will need to build low-cost and modular product capabilities, and innovate directly with customers to build propositions that work for them. They will also need to collaborate better across the organization to break down siloes, build targeted propositions, and cross-sell into their large retail and wholesale client networks.

- **Deepen bank-led sector ecosystems.** Coming out of the pandemic, it is clear that sector is king. There have been stark differences in credit quality between the worst hit sectors – such as travel – and those that have accelerated their growth during the crisis – such as e-commerce. The recovery will be equally polarized as laggards struggle to restructure and reboot client demand, and the fittest continue to thrive. Growth will disproportionately come from a few key sectors, such as technology and healthcare. Banks should proactively shape their client portfolios to capture this growth and to leverage existing strengths in client franchise and footprint.

  Successful sector ecosystems require banks to focus on high growth sectors where the bank is positioned to win, proactively targeting client selection and balance sheet towards the most attractive sectors. Banks can bring deep sector expertise by investing in intellectual capital, and organizing sales and coverage teams along sector lines. Finally, those that have succeeded at developing sector ecosystem solutions do so together with customers. We see multiple examples of sector propositions in healthcare, such as the JP Morgan 2019 acquisition of InstaMed to develop its payments services suite and push further into US healthcare payments. We see increased prevalence of successful sector propositions in Asia (see *Asia: The canary in the coalmine for legacy Transaction Banking*).

  Based on the success of such models to date, we estimate a revenue opportunity for the industry of $25-50BN, as banks can grow revenues using these sector-led strategies at more than double the pace of the rest of the market, while also delivering compelling economics for the bank. Banks who deploy these deep sector propositions typically deliver significantly better economics than the rest of the business: 15-20% higher return on RWA; up to 40% higher deposit balances, and 20-30% lower customer churn rates. While the cost of developing these 'mass customisation' solutions may be higher, this is easily offset by the value of the deeper relationship.

Banks that can successfully implement these strategies will strengthen the client interface and benefit from further scale advantages in lowering unit cost. They also have the potential to grow valuation in the medium term: these business ventures are high-growth, fee-based and sticky, and will provide evidence to investors that Transaction Banking is a technology business and should be valued as such.

Asia: The canary in the coalmine for legacy Transaction Banking

Pockets of bank disintermediation are already playing out in Asia. While scenarios of non-banks owning the front to back payments value chain may seem far-fetched, we can see evidence of this materializing in Asia already. For example, in Indonesia the service platform GoJek has released an e-wallet service "Go-Pay", and the e-commerce platform Tokopedia has partnered with e-wallet FinTech Ovo. These examples speak to the risk of non-banks encroaching on banking markets and the undeniable threat to incumbent banks – these trends are accelerating, with 72% of e-commerce spend in China using digital wallet in 2020[3] , with increasing penetration into B2B payments. We only expect these trends to accelerate in Asia with the rise of hyper digitization, accelerated by the Covid pandemic and the associated growth in e-commerce. These same driving forces are present, albeit less mature, on a global scale, and the same types of threats to incumbent North American and European banks are potentially just one big press release away.

By looking to Asia, not only can we see that the threat is real, but we can also observe roadmaps and examples of how to adapt. In fact, many of our proposed medium-term business models discussed throughout this report originated in Asia. This includes:

- Sector-based solutions, such as Ping An's creation of the healthcare software company Good Doctor as a component of its strategy to better serve that sector, or Banksteel's e-commerce proposition for steel in China that expanded to include value-added services, after starting as an online register for buyers to sellers in 2013. DBS Bank partnered with natural rubber franchise Halcyon to launch HeveaConnect, a digital marketplace for the rubber industry, connecting farmers, producers and tire manufacturers with data and workflow capabilities, which aims to increase price transparency and streamline processing.
- BaaS propositions, such as Tencent's distribution of financial service products

Today, the question banks in Asia are asking is how they can unlock the value of their local market expertise and their comparative advantages and leverage the rich data they sit on to generate insights and develop new growth propositions for clients. Banks across other markets need to be asking what foundations they should be laying in preparation for a similar market structure, and looking to Asia for inspiration.

3 Worldpay from FIS, 2021 Global Payments Report

Integrate: Use or Lose Embedded Payments Assets

Banks must prove they can be advantaged owners of embedded assets. Even as non-banks become more competitive, banks have valuable payments assets across the group that can be better leveraged. Many banks have legacy merchant services businesses and scale payments processing factories, and most have extensive wholesale and retail customer networks and rich customer data. But few are maximizing the shareholder value of these assets. They are often managed in a siloed way, underinvested and uncompetitive compared to the non-banks. Banks must now prove that they can unlock the value of these assets and address perceived structural advantages of non-banks.

Exhibit 18:

Banks can address perceived structural advantages of non-banks

	Banks	Non-banks/ pure players	Steps banks can take
Capital requirements and accounting	Stringent regulatory capital requirements, and intangible assets (e.g. goodwill) deducted from solvency capital base	No enforced regulatory capital requirements	Structural gap: banks remain at a disadvantage in light of regulatory capital they must hold against their activities. Banks must work to offset this disadvantage with other areas of advantage such as customer network
Investor visibility & transparency	Payments function as part of larger bank entity	Standalone payments entity	Disclose more information highlighting the value of the payments business; reinforce through investments in growing the business
Technology	Multiple legacy tech. systems, typically underinvested. 1-8% revs spent on innovation across the bank	More modern platforms with strong e-commerce capabilities & >10% revs spent on innovation on their propositions	Invest in modernizing platforms utilizing a modular, micro-service approach and co-create with clients to ensure it meets current and future needs
Client relationship	Multiple non-payments objectives to balance, often with siloed and/or competing incentives across the organization	Singular focus on driving commercial outcomes for payments	Reorganize sales & coverage teams and functions to be more focused on delivering tailored client needs based solutions

Structural gap Addressable

Source: Oliver Wyman analysis.

Banks must take a hard look at where they are uniquely positioned relative to other banks, non-bank players, and client needs, and evaluate if they have the differentiated capabilities to compete. We argue that banks need to 'use or lose' their existing group-wide payments assets to maximize shareholder value and deliver on the bold plays that extend outside of the wholesale perimeter. That is to say, they either need to better integrate their wholesale, retail and merchant offerings and demonstrate shareholder value, or they should divest these assets and realize a higher external valuation. To 'use it', banks should take a leaf out of the non-bank playbook and seek to replicate their advantages wherever possible, whilst leveraging the unique network advantages of a bank:

- Invest in merchant acquiring capabilities to build out and enrich the offering with value-added services, gearing it to faster growth e-commerce sectors
- Deliver commercial excellence in proposition development, pricing and execution to grow margin
- Better integrate disparate capabilities across wholesale payments, retail and merchant and manage these capabilities in a cross-business manner
- Leverage the salesforce to cross-sell merchant acquiring into the existing customer base
- Mine existing transactional data across retail and wholesale to bring rich insights to merchants and corporates to help them grow their businesses, target customers and reward loyalty
- Create targeted B2C/C2B propositions that bridge wholesale and retail franchises
- Mirror FinTechs and define success based on long-term growth potential as opposed to managing against in-year profitability goals
- Explore opportunities to work together with other banks to reduce the risk of disintermediation by delivering differentiated propositions (for example, the European Payments Initiative which will provide cross-regional multi-channel payment rails)

For those unable to extract full value from the franchise, divestment of the merchant services business may deliver greater shareholder value, and allow the bank to partner with scale players with superior offerings. One example of a bank successfully divesting from components of its merchant services business is Fifth Third, which spun off its Merchant Acquiring business in 2009, selling 51% of a business valued at $2.4BN. The spun-off JV, Vantiv, was able to grow rapidly and significantly increase its valuation, with Fifth Third realizing a $1BN gain in 2017 through the sale of 3.7% of its stake in the business. In 2019, Vantiv was acquired by FIS at a valuation of $43BN, or 18x its valuation 10 years prior.

Exhibit 19:

Management teams need to act now to recoup lost revenues in the short term and position themselves to defend against disruption

Management actions

Near-term

- **Grow fee revenue**, with particular focus on higher quality recurring fees and data-driven pricing disciplines
- **Dynamic and data-driven FTP and enhanced deposit pricing**, including charging for negative yielding deposits
- **Increase cross-sell of linked-FX**
- **Optimise the balance sheet, increasing cross-sell** between lending and payments and cash management; ration the deployment of lower return vanilla lending

- **Disclose more** – but be aware that this will give rise to scrutiny on underperforming parts of the business (e.g. lending)
- **Double down on B2C and C2B opportunities** – e-commerce/platforms /merchant services – leveraging bank-wide capabilities not limited to the wholesale perimeter

Medium-long term

Scale players

- **Play for scale**, leveraging partnerships to enhance and deliver propositions:
  - **Banking as a Service** (BaaS) ventures
  - **Deep sector** integration
- **Renew technology backbone** to deliver low cost, streamlined infrastructure

Sub-scale players

- **Focus on client interface and areas of strength,** e.g. deep local knowledge/connectivity
- **Choose specific sectors** to specialize in without playing everywhere, and win business through superior propositions
- **Partner** to enhance and deliver propositions
- **Outsource** core parts of your infrastructure where you don't have sufficient scale, or create differentiation

Source: Oliver Wyman analysis.

Value Growth in Restructured Markets and IBD

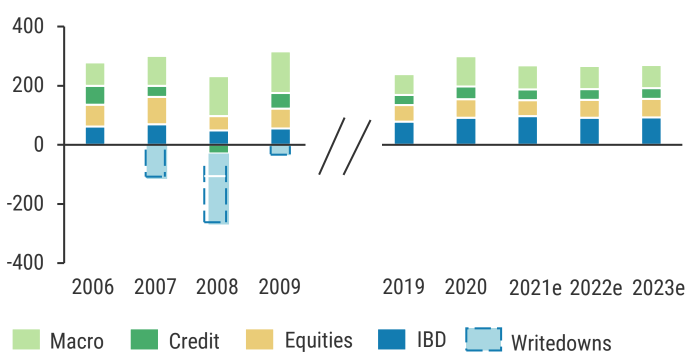
Investors have underestimated the resilience and countercyclical earnings power of Markets and IBD franchises. Markets and IBD businesses have demonstrated their earnings power in periods of economic stress through the pandemic, delivering the best revenue and earnings performance in a decade and outperforming businesses that are more geared to the real economy. Markets and IBD revenues climbed 26% industrywide to $300BN in 2020, offsetting the decline in revenues in commercial (-5%) and consumer (-15%) banking businesses. The earnings shift was even more pronounced, with much higher increases in provisions for credit losses in commercial and consumer. We believe this performance is no fluke – Markets and IBD businesses have spent much of the past decade restructuring to build revenue and earnings resilience.

Second, Markets and IBD businesses have taken steps to transform their businesses, reducing their exposure to cyclical downturns in products such as credit and mortgage trading. While there will always be risk of losses from concentrated exposures or idiosyncratic events, Markets businesses are no longer as closely tied to the broad performance of the market (e.g. equity gains and losses, credit spreads widening and narrowing) through significant, directional inventory positions as they were during the Global Financial Crisis. Banks have reduced the overall size and increased the velocity of their inventory, benefiting from the shift to electronic trading and standardized, cleared markets. We estimate a dollar of revenue across the Markets and IBD perimeter now uses 21% less balance sheet and attracts 34% less VaR than 10 years ago.

Exhibit 20:

Structural reforms since the last financial crisis have enabled Markets and IBD businesses to provide counter-cyclical revenue growth with limited trading losses

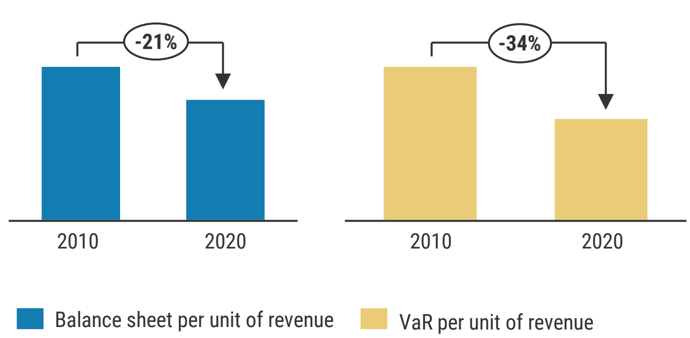
IBD and Markets Historical and Forecasted Revenues
$BN, 2006-2009, 2019-2023e



Source: Coalition proprietary data, Oliver Wyman analysis.

Exhibit 21:

Banks are generating similar levels of revenue with a materially smaller balance sheet



1. Uses yearly Average VaR for one-day holding periods. Source: Oliver Wyman analysis, Coalition proprietary data, public financial reports.

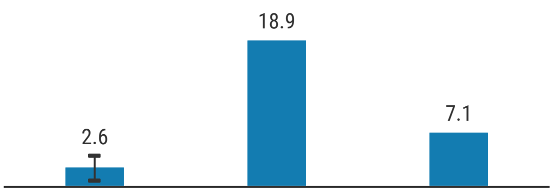
There were two main factors driving the resilience of Markets and IBD revenues. One was certainly the extraordinary policy response to support the real economy and credit markets, which led to a rapid recovery in asset prices and reduced the risk of losses on inventory in credit and mortgage products. While economic conditions were exceptional in 2020, the use of Quantitative Easing and other types of formerly unconventional monetary policy have become an established part of the policy toolkit. Their deployment during future economic shocks may protect Markets and IBD businesses from Global Financial Crisis type downside risks.

As the industry has restructured, value has seeped from the sell-side to non-banks – but the shift in revenues has been slower than feared. New regulations introduced after the Global Financial Crisis shifted the economics of Markets and some IBD businesses by dramatically increasing capital requirements, reducing the attractiveness of previously high return businesses. Investors responded as the implied market value of Markets and IBD businesses fell to 3x revenues, whereas adjacent non-bank firms with low capital, network-like economics (e.g. exchanges, data providers) trade at P/E ratios of 7-19x. The scale of this valuation shift may be unwarranted as the shift of revenues to capital light competitors has been slower and less extreme than feared – established businesses have restructured to protect revenues and reduce capital intensity. To narrow the valuation gap Markets and IBD businesses will need to continue maintaining discipline in risk management and cost, while delivering a sustainably higher revenue performance compared to the pre pandemic period.

Exhibit 22:

Value has migrated to exchanges and financial data companies but the actual structural loss of revenues beneath this has been lower than feared

Market Cap / Revenue multiples with global bank spread, $BN 2020



Averages	Global banks[1]	Diversified exchanges[2]	Financial Data & Tech Providers[2]
Revenues $BN	16	2	3
Revenue growth 2014-'19	-2%	7%	12%
Market cap $BN	42	39	20

1. Market cap calculated as % of IBD & Markets revenue / total bank revenue multiplied by total bank market cap as of 3/10/2021.2. Revenue includes revenue streams from Market Infrastructure and Financial Services activities only. Market cap is calculated as % of total revenue from these streams in 2020. Source: Coalition proprietary data, Refinitiv Datastream, Public earnings reports and corporate financial information, Oliver Wyman proprietary data, Oliver Wyman Analysis.

The winners are those best able to pivot towards the emerging drivers of value in the industry. Right now the biggest shifts have been towards electronic trading and private markets, and the leading players have already made big strides to pivot their models to these areas. Together these opportunities will account for over $75BN in revenues for the sell side. The battle is now on to carve out roles around the new drivers of value that will drive growth over the next 5 years – in particular around ESG and the Green transition, and around digital assets.

Value driver 1: Electronic trading. The sell-side has been under siege as non-bank liquidity providers, trading venues and market data providers take a bigger slice of the pie. 2020 saw a big acceleration in this trend, in credit products in particular. Yet 2020 also revealed the value in risk intermediation. The leading sell-side firms have invested to defend and adapt their model and we estimate the sell-side opportunity is >$50BN in revenue driven by electronic facilitation. The opportunity continues to evolve, as products once considered too illiquid to trade electronically move gradually toward more electronic execution. Corporate credit is the most recent example, with the rapid proliferation of algorithmic auto-pricing tools and portfolio trading over the past 2-3 years. Banks investing in cross-asset electronic trading infrastructure, building hybrid voice-electronic in less liquid asset classes, and developing innovative models for client service/access will have the edge.

Exhibit 23:

Markets and IBD businesses will need to capitalize on structural shifts in client demand to thrive in the future

Opportunities in Markets and IBD

	1 Electronic trading	2 Private Markets	3 Emerging opportunities
Description	• Investing in electronic trading platforms that offer edge and scale across asset classes • Deep specialization in less liquid asset classes with hybrid electronic and high touch capabilities • Reassessment of the user interface (investing in client portals that create stickier relationships with investors with broad market access and value-added services)	• Expand early-stage coverage and product offering for corporates staying private longer • Invest in platforms that can channel the wide range of financing options / solutions for private companies • Establish new fund structures and other vehicles for individual investors to access expanding universe of private investments • Invest in capital light services for private borrowers (transaction banking) or private markets investors (custody and fund admin)	• ESG: Financing the transition to a low carbon economy and underwriting a spectrum of green labelled products for investors • Digital Assets: trading and servicing new asset classes (e.g. crypto) and trading and servicing existing asset classes more efficiently • Outsourcing: commercializing existing capabilities, infrastructure, and data
Market size	>$50 BN	>$25 BN	N/A

Source: Oliver Wyman analysis, Morgan Stanley Research.

Value driver 2: Private markets. The rise of private markets is a threat to some traditional investment banking business - but also an opportunity for dealers able to pivot into this trend. We estimate the opportunity is >$25BN for Markets and IBD businesses. Opportunities include early-stage coverage, investing in financing capabilities/solutions for private companies, new fund structures for investors to access private investments, and capital light services such as Transaction Banking and custody and fund administration investors in private companies. Successful banks will capture the full value of IB capabilities and leverage groupwide client relationships and capabilities, such as in asset and wealth management.

Value driver 3: Emerging growth markets. Leading banks are also developing strategies now to best position themselves for the shifts that will define the medium to long term. These include:

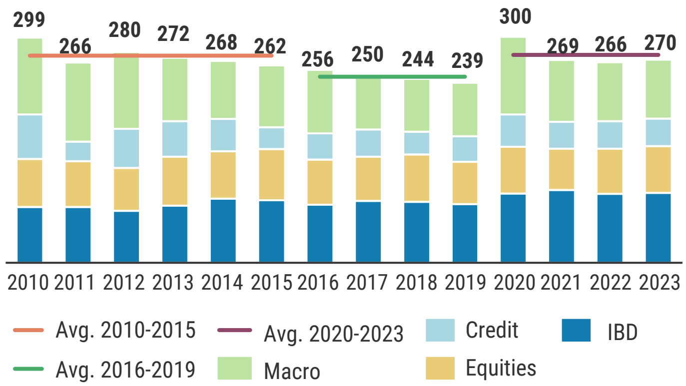
- ESG: mobilizing innovative financing structures to fund key transition technologies and ecosystems (e.g. EVs, hydrogen), underwriting a spectrum of green labelled products for investors, developing carbon trading and risk management capabilities, connecting clients more efficiently to green supply chains, and advising and supporting clients in transition
- Digital Assets: trading and servicing new asset classes (e.g. crypto) and trading and servicing existing asset classes more efficiently
- Outsourcing: commercializing existing capabilities, infrastructure, and data, either through digital research offerings focused on proprietary insights or broader outsourcing and white-labelling capabilities in electronic trading, asset pricing, risk management, etc.

Taken together this points to a constructive revenue outlook. We expect revenues to normalize from 2020 over 2021-23 but to remain 10-11% above their pre-pandemic levels in our Full Recovery and Runaway Recovery scenarios. In the Full Recovery scenario revenues will remain elevated as global economies rebalance and the combination of fiscal stimulus and asset repricing generate demand for advisory, financing, intermediation, and risk management. In the Runaway Recovery scenario multiple rounds of fiscal stimulus supercharge the economy, sustaining momentum in the IPO/SPAC boom. The sharp and sustained rebound in the global economy and continued government backstop also sustain elevated earnings in Credit, though volatility normalizes quickly impacting flow businesses in outer years. Our Partial Recovery scenario sees policy makers pulling hard on fiscal and monetary levers – resulting in a low volatility but low economic activity environment that is challenging for flow businesses like Macro and Equities, but limits downside risk.

Exhibit 24:

Historical and Forecasted Markets and IBD revenues, $BN 2010-2023e

Historical and Forecasted Markets and IBD Revenues, $BN 2010-2023e



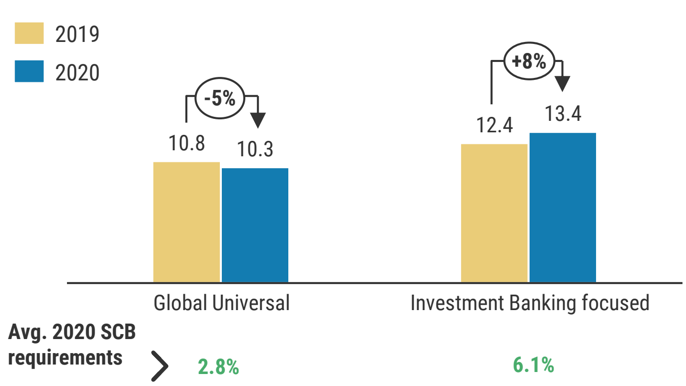
Source: Coalition proprietary data, Oliver Wyman analysis

Supervisors continue to demand more capital from these businesses. US regulators have raised capital requirements in 2020 through the introduction of the Stress Capital Buffer. Banks that are Markets focused had average SCB requirements of 6.1% vs 2.8% for more diversified universals. While the SCB only applies in the US, it is indicative of the upwards pressure on capital requirements for Market and IBD businesses. By 2022 the Basel Committee on Banking Supervision is anticipated to have finalized the Fundamental Review of the Trading Book proposals, which will further raise market risk related capital requirements in the trading books of some banks. While trading businesses will always come with a degree of volatility, some banks may conclude that the level of capitalisation is now excessive relative to the risk exposure of these businesses. That in turn poses questions for these banks on how they effectively allocate capital internally across divisions to maximize group returns.

Exhibit 25:

Introduction of the stress capital buffer in 2020 required more capital to be held against markets and IBD focused banks

CET[1] Capital Requirements, % 2019-2020



Source: FRB, Oliver Wyman analysis.

Scale and Innovation Drive Leaders and Laggards

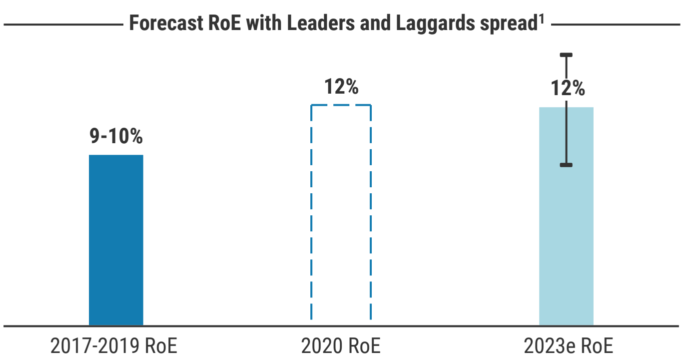
With ROEs above hurdle rate, scale and capacity to innovate are key differentiators. 2020 demonstrated that banks are able to achieve high returns, with average returns across wholesale banks at 12%, above 2017-2019 levels of 9-10%. In our Full Recovery scenario, we anticipate banks achieving returns on average of 12% in 2023. Not all banks will achieve these above-hurdle returns however. Across wholesale banks we see cost-income ratios ranging from <60% to >70% for first-tier US banks and European banks, respectively. This is due in part to the scale benefits that US banks have already built up, and in part to the favourable macro conditions in the US versus the prolonged low interest rate environment in Europe. Scale challenges are even more stark in Transaction Banking, as described below. Given these factors, we estimate an ROE gap of 6% pts between leaders and laggards over the cycle.

Differentiators are particularly critical in the key battleground of Transaction Banking. Within the Transaction Banking business many regional players are struggling to cover the fixed cost base. Large global banks – particularly US and Asian players – enjoy significant advantages in terms of scale, commercial model and gearing to faster growth sectors of the market. US regionals enjoy sticky middle market client relationships, while the European regionals are most exposed. The range in cost-income ratios in Transaction Banking is significant, with many smaller banks and regional players at >90%, vs. global banks at <50%.

Exhibit 26:

Leaders and laggards RoE, 2023e

Historical and forecasted wholesale banking RoE by economic scenario, 2017-2023e

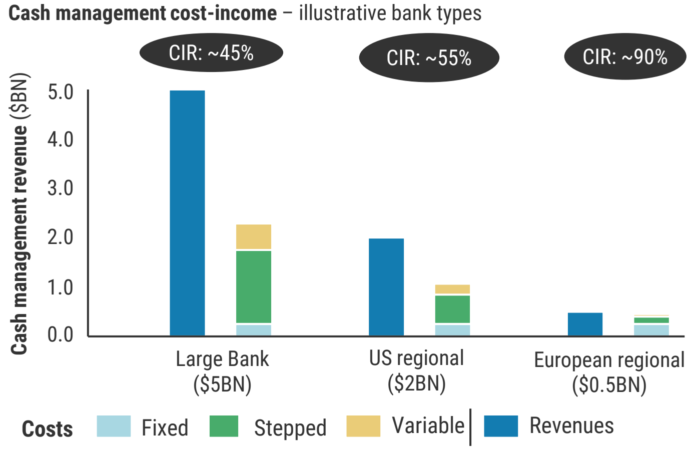


Source: Coalition proprietary data, Oliver Wyman analysis.

Exhibit 27:

Larger global banks continue to enjoy material scale advantages

Cash management cost-income – illustrative bank types



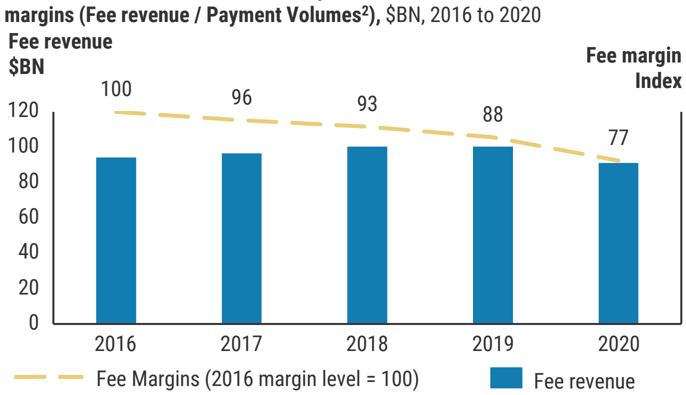
Note: Fixed costs comprising of technology costs; Stepped costs based on coverage, sales and direct costs; Variable costs based on Operations costs. Source: Coalition proprietary data, Oliver Wyman analysis.

Banks' Payments and Cash Management fee margins have declined steadily over time due to a number of factors, including fee waivers driven by competitive pressure and a shift in the product mix towards lower fee products. This trend accelerated notably in 2020 with the rapid growth in e-commerce driving payments mix away from higher margin channels (like cheques), and increasing the volume of lower margin micro-payments.

Exhibit 28:

Banks' fee margins have trended down recently as e-commerce has shifted volumes away from higher margin channels

Global Full View[1] Wholesale Bank Payments and Cash Management Fee margins (Fee revenue / Payment Volumes[2]), $BN, 2016 to 2020



1. All corporates with > $10MM turnover. 2. Payment volumes are calculated as the total of SWIFTNet FIN Payments Messages, CHIPS, CHAPS, BACS, UK Faster Payments, and Fedwire Funds Service volumes. | Source: Coalition proprietary data, SWIFT, BIS, FRB, The Clearing House, Bank of England CHAPS, Pay.UK, Oliver Wyman analysis.

As fee margins continue to trend downwards and new market structures create 'winner takes all' outcomes, smaller players will be increasingly disadvantaged. The cost of upgrading technology and product capabilities to meet new market standards – for example ISO20022 or domestic real-time payment schemes – may be prohibitively expensive for some.

Yet we see opportunities for specialists. Across all parts of wholesale, specialists who can go deep on particular sectors or activities can still deliver high return models:

- In the Markets and IBD business the top 6-8 banks have the depth of liquidity provision and breadth of capabilities across asset classes to outperform on industry ROE. Mid-sized challengers must focus on manufacturing scale in specialized asset classes or through serving clients on open platforms via partnerships.
- In Transaction Banking smaller banks will need to think about building group-wide payments hubs across retail, commercial and wholesale to maximize scale; outsourcing operations and technology services to lower cost providers; and focusing on areas of real strength, such as local market expertise and sector depth.

Innovation is the wedge. Looking ahead, winners will be determined by those that have invested in capabilities to successfully position for the medium to long-term structural shifts including BaaS business models, roll-out of central bank digital currencies and other digital assets, financing the transition to less carbon-intensive economies, and commercializing existing capabilities, infrastructure, and data. As banks pivot to follow these new structural shifts they will need to ensure their investments in innovation and change are efficient and effective. We estimate that 50% of change spend is wasted, in large part due to a lack of upfront planning, poor transparency, insufficient management buy-in, and tooth-less governance. To be successful in an environment that requires change, a disciplined approach to change management is often the difference between winners and losers.

If CIBs are to drive a re-rating by investors they will need to prove that there are sustainable revenue gains in previously underperforming Markets and IBD businesses and that they can achieve commercial excellence in Transaction Banking, deliver on ambitious growth plans, and improve disclosure. First tier banks will need to continue to drive home advantages of scale if they are to narrow the valuation gap with non-bank competitors. For the rest, tight discipline on costs and a focus on core strengths will be the clearest path to success.

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Global Stock Ratings Distribution

(as of March 31, 2021)

The Stock Ratings described below apply to Morgan Stanley's Fundamental Equity Research and do not apply to Debt Research produced by the Firm.

For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

STOCK RATING CATEGORY	COVERAGE UNIVERSE COUNT	COVERAGE UNIVERSE % OF TOTAL	INVESTMENT BANKING CLIENTS (IBC) COUNT	IBC % OF TOTAL IBC	IBC % OF RATING CATEGORY	OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC) COUNT	MISC % OF TOTAL OTHER MISC
Overweight/Buy	**1510**	**43%**	**417**	**47%**	**28%**	**666**	**43%**
Equal-weight/Hold	**1435**	**41%**	**377**	**42%**	**26%**	**658**	**43%**
Not-Rated/Hold	**4**	**0%**	**2**	**0%**	**50%**	**4**	**0%**
Underweight/Sell	**527**	**15%**	**95**	**11%**	**18%**	**210**	**14%**
TOTAL	**3,476**		**891**			**1538**	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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