

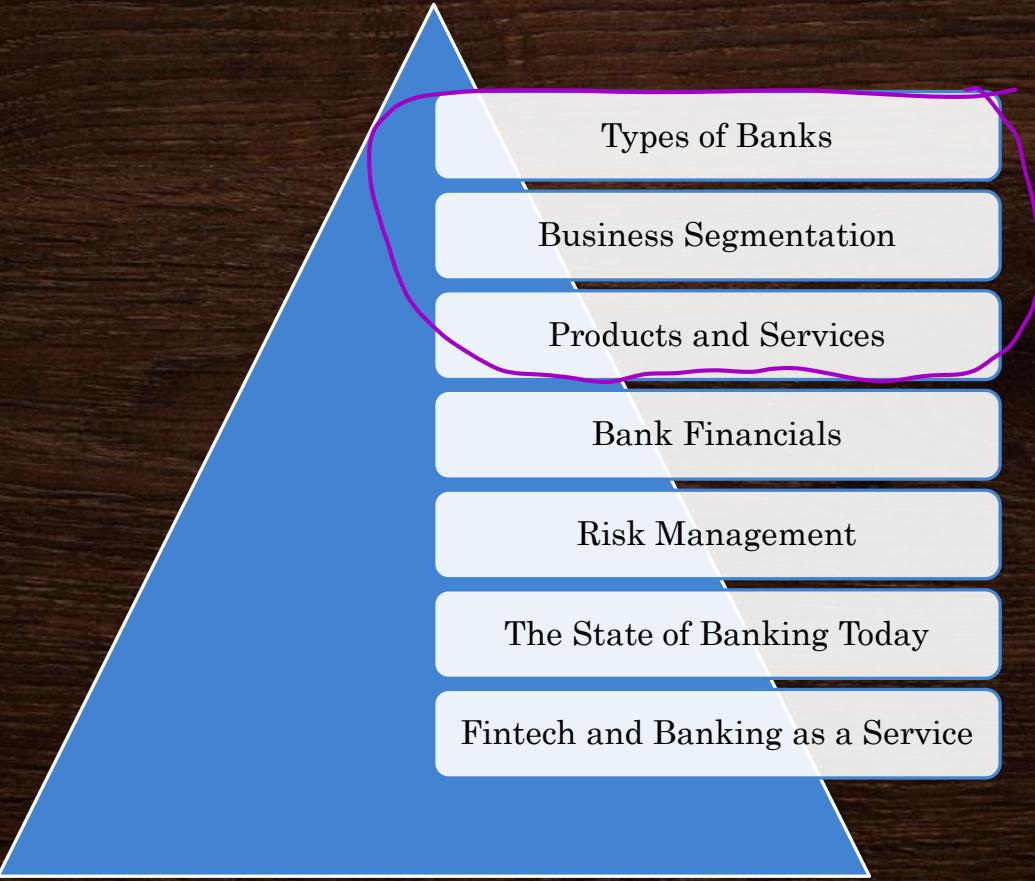
BANKING

FINTECH 520

SEMPTEMBER 27, 2022

OCTOBER 4, 11, 2022

Topics

- 
- Types of Banks
 - Business Segmentation
 - Products and Services
 - Bank Financials
 - Risk Management
 - The State of Banking Today
 - Fintech and Banking as a Service

Types of Banks

Consumer Banks

Focus on individuals and small businesses

pool services
thru branches

retail

Commercial Banks

Focus on middle-market and large-corporate businesses

DSM
line of credit
investment accounts

Investment Banks

Focus on helping businesses raise capital

FED regulated

BUSINESS SEGMENTATION

Business Segmentation

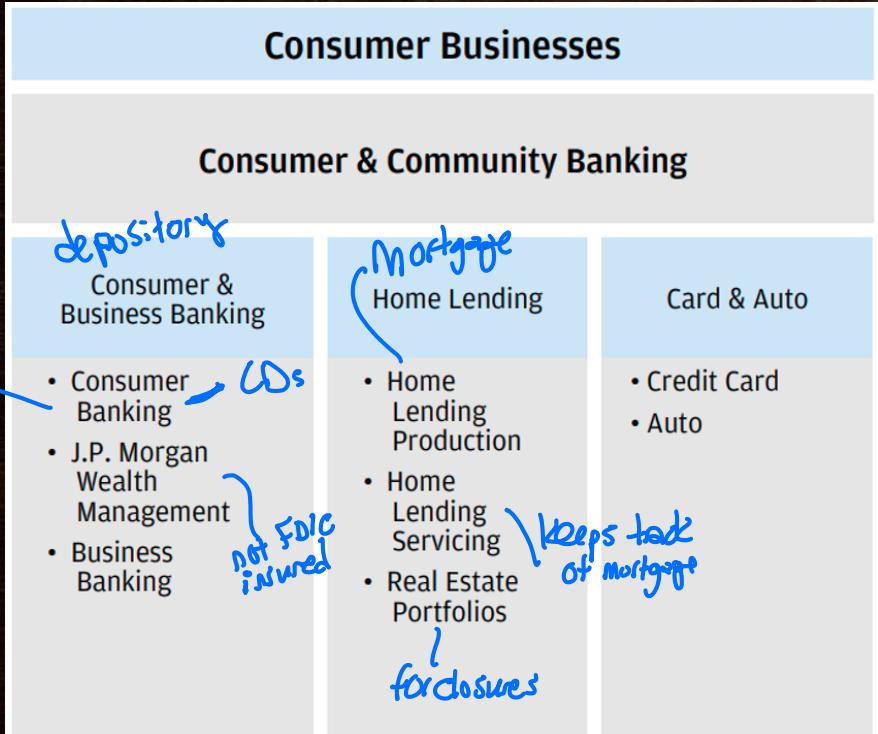
JPMorgan Chase						
Consumer Businesses			Wholesale Businesses			
Consumer & Community Banking			Corporate & Investment Bank		Commercial Banking	Asset & Wealth Management
Consumer & Business Banking	Home Lending	Card & Auto	Banking	Markets & Securities Services	Middle Market Banking	Asset Management
<ul style="list-style-type: none"> • Consumer Banking • J.P. Morgan Wealth Management • Business Banking 	<ul style="list-style-type: none"> • Home Lending Production • Home Lending Servicing • Real Estate Portfolios 	<ul style="list-style-type: none"> • Credit Card • Auto 	<ul style="list-style-type: none"> • Investment Banking • Wholesale Payments • Lending <p><i>aquiring banks</i></p>	<ul style="list-style-type: none"> • Fixed Income Markets • Equity Markets • Securities Services • Credit Adjustments & Other 	<ul style="list-style-type: none"> • Corporate Client Banking • Commercial Real Estate Banking 	<ul style="list-style-type: none"> • Wealth Management <p><i>individuals</i></p>

Business Segmentation

China Construction Bank		
Corporate Banking	Personal Banking	Treasury Business
Corporate financial service	Personal financial service	Financial market
Institutional	Private banking	Assets management
International	Debit cards	Investment banking
Asset custody service	Credit cards	Financial institutional
Settlement and cash management	Entrusted housing finance	

PRODUCTS AND SERVICES

Products and Services

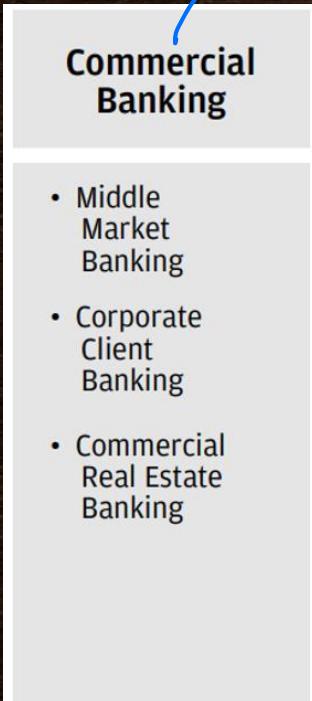


- Consumer and business banking services have traditionally been delivered through branch networks
- The JPM business matrix shows the range of products and services that are targeted toward individuals
- Consumer banking is traditional in that it has maintained a focus on the core business of checking, savings, and mortgage loans
- JP Morgan Wealth Management offers investment products as an alternative to products such as savings accounts and CD's

Wholesale business

Products and Services

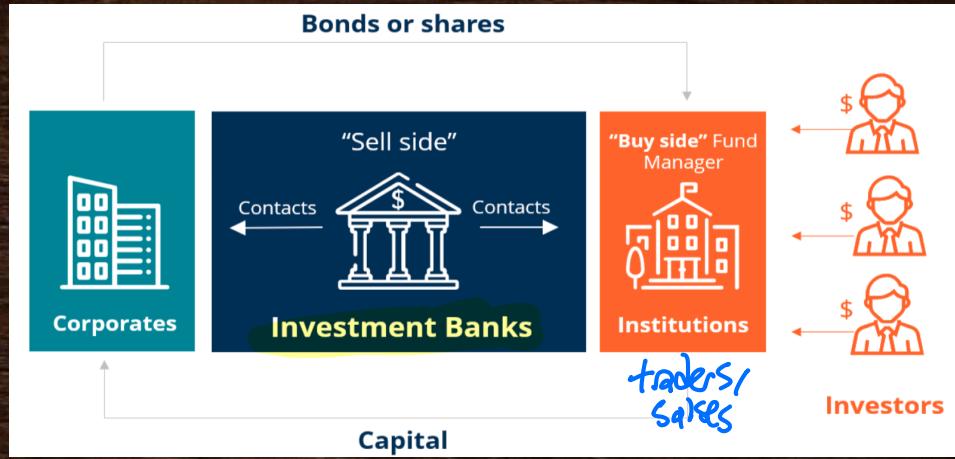
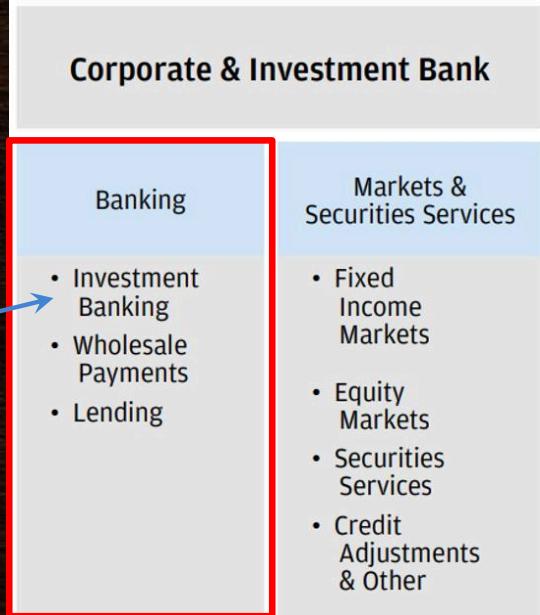
business own property



Commercial Banking services have tended to focus on the following areas:

- Credit
- Treasury services *- transactional bank accounts*
- Fixed-asset financing (e.g., leasing in capital intensive businesses such as transportation, heavy machinery)
- Employer services *- payroll*

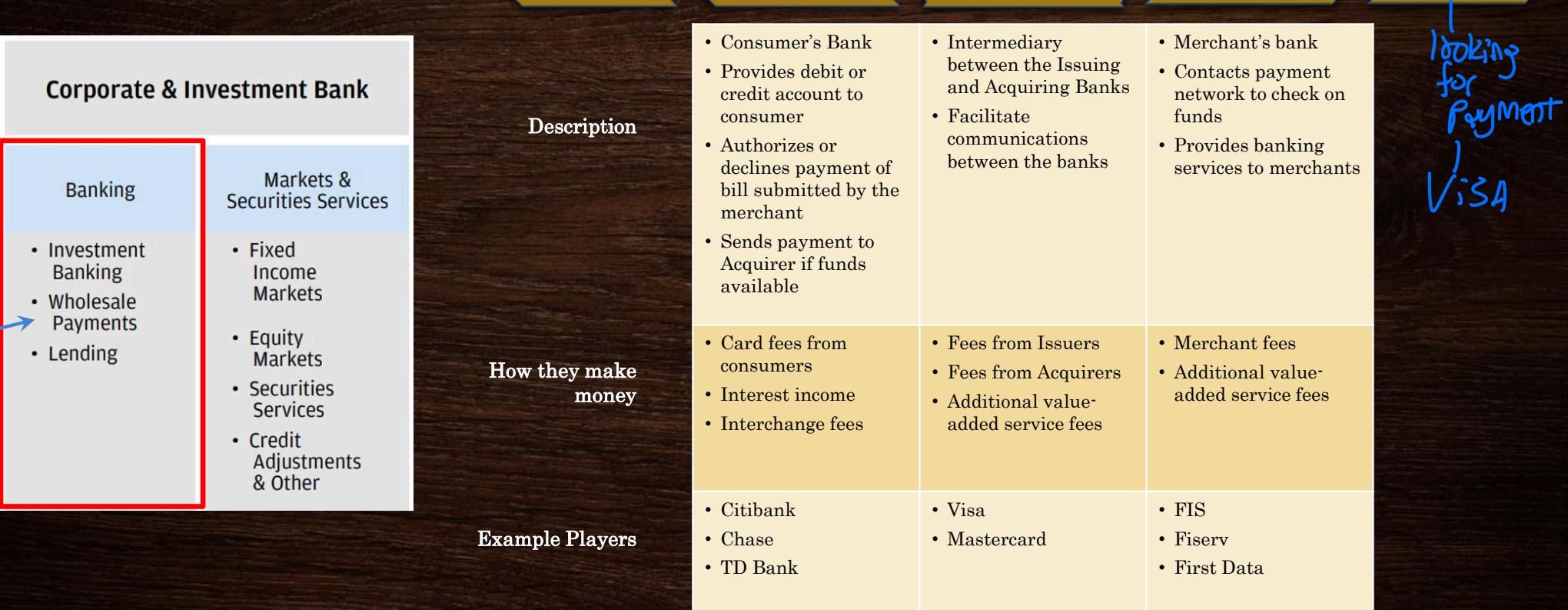
Products and Services – Investment Banking



- An investment bank acts as an intermediary between those who have money to invest and those that require capital to grow
- Target market is corporations, government entities, institutions
- Services include:
 - Underwriting
 - Mergers and acquisitions *– representing buyers/sellers of companies*
 - Sales and trading
 - Advisory services

Products and Services – Payments

Corporate & Investment Bank	
Banking	Markets & Securities Services
<ul style="list-style-type: none"> • Investment Banking • Wholesale Payments • Lending 	<ul style="list-style-type: none"> • Fixed Income Markets • Equity Markets • Securities Services • Credit Adjustments & Other



The diagram illustrates the payment process flow:

- Consumers** → **Issuers** → **Card Networks** → **Acquirers** → **Merchants**
- A blue arrow points from the Consumers box to the Issuers box.
- A blue arrow points from the Acquirers box to the Merchants box.
- A blue arrow points from the Issuers box to the Card Networks box.
- A blue arrow points from the Card Networks box to the Acquirers box.
- A blue arrow points from the Acquirers box to the Merchants box.
- A handwritten note on the right side of the diagram says "looking for payment" with an arrow pointing to the Acquirers box, and "Visa" written below it.

Description	How they make money	Example Players
<ul style="list-style-type: none"> • Consumer's Bank • Provides debit or credit account to consumer • Authorizes or declines payment of bill submitted by the merchant • Sends payment to Acquirer if funds available 	<ul style="list-style-type: none"> • Card fees from consumers • Interest income • Interchange fees 	<ul style="list-style-type: none"> • Citibank • Chase • TD Bank
	<ul style="list-style-type: none"> • Fees from Issuers • Fees from Acquirers • Additional value-added service fees 	<ul style="list-style-type: none"> • Visa • Mastercard
		<ul style="list-style-type: none"> • FIS • Fiserv • First Data

Products and Services – Securities Services

fee income

Corporate & Investment Bank

Banking	Markets & Securities Services
<ul style="list-style-type: none">• Investment Banking• Wholesale Payments• Lending	<ul style="list-style-type: none">• Fixed Income Markets• Equity Markets• Securities Services• Credit Adjustments & Other

A blue arrow points from the 'Lending' item in the Banking section to the 'Credit Adjustments & Other' item in the Markets & Securities Services section.

record keeping

keeping track of stuff

<p>Capital Markets Agency Services ></p> <p>Benefit from our extensive involvement in default/bankruptcy, loan agency, corporate debt/high-yield, M&A, and other capital markets transactions.</p>	<p>Capital Markets Structured Finance ></p> <p>Foster success with your structured finance transactions through our comprehensive administrative and trustee services.</p>	<p>Loan Market Solutions ></p> <p>Our team offers a comprehensive suite of services to bank loan market participants including loan agency, CLO trustee, loan administration, custodian and escrow services.</p>
<p>Institutional Investment Management ></p> <p>Benefit from our deep institutional experience and robust suite of equity, fixed income, and holistic asset allocation strategies (Outsourced Chief Investment Officers).</p>	<p>Retirement Services ></p> <p>Enhance your role as a TPA with a firm providing independent, institutional services – and over 65 years of experience serving the retirement industry.</p>	<p>Special Purpose Vehicle Administration and Special Purpose Entity Management ></p> <p>Whether establishing or administering your SPV, we can assist with virtually any facet of the transaction.</p>
<p>Collateral Management ></p> <p>Count on our experienced staff to manage your back-office, operational, and virtually all administrative/institutional custody tasks, so you can devote your time to other important aspects of your business.</p>	<p>Institutional Custody & Administrative Services ></p> <p>Focus on meeting the goals of your organization while we take care of the rest. Call on Wilmington Trust to provide institutional custody, back office, administrative, and specialized accounting services for your organization— with personalized service and attention.</p>	

Products and Service – Asset Management



- Asset managers typically offer a broad array of investment strategies that become distinct components of an institutional investor's broader portfolio
- Individual investors access these strategies most typically via investments in mutual funds
- Asset managers offer either active management, passive management, or both
- Asset managers are typically categorized as traditional or alternative

Products and Services – Wealth Management

- Refers to investment management and financial planning for individual investors



Lecture 2

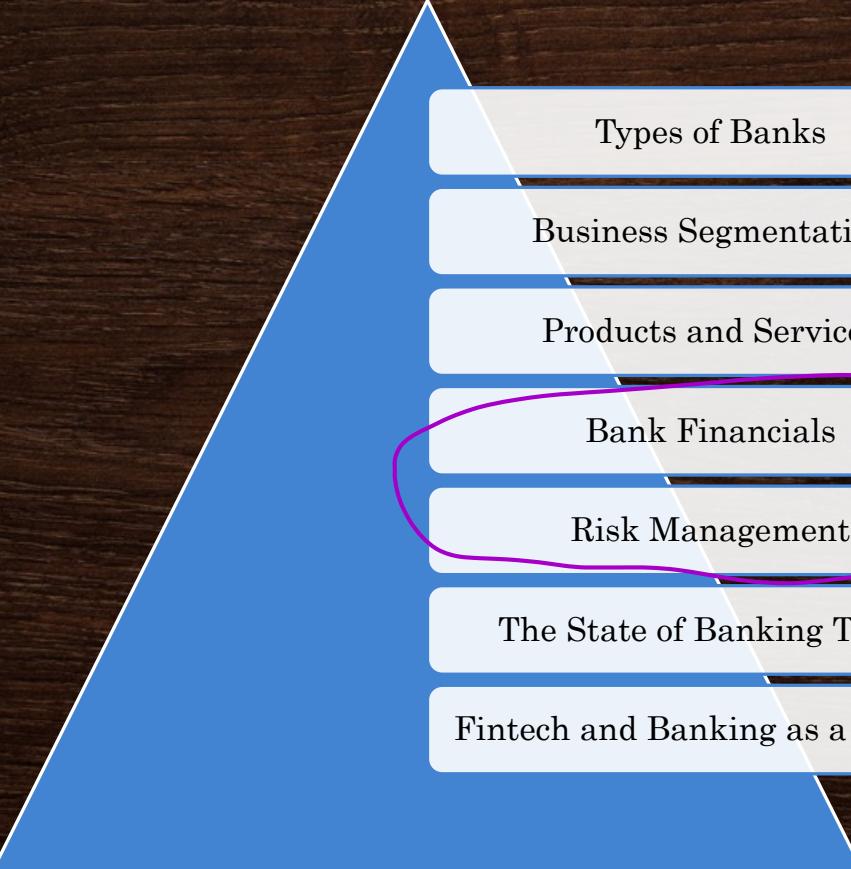
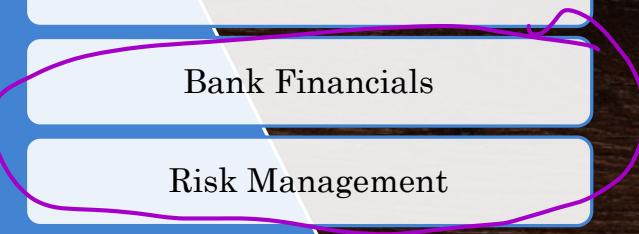
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- 

BANK FINANCIALS

The Financials

- This is taken from page 1 of the JPMC Annual Report
- This page shows “at a glance” overall profitability, per share trends, key financial ratios, and an abbreviated view of the balance sheet

Observations



- Difference between “top-line” and “bottom-line” growth?
- Why is “per share” data important?
- Why focus on ratios? Why these ratios?
- What do the balance sheet data suggest?

As of or for the year ended December 31,
(in millions, except per share, ratio data and headcount)

	2021	2020	2019
Selected income statement data			
Total net revenue ^(a)	\$ 121,649	\$ 119,951	\$ 115,720
Total noninterest expense	71,343	66,656	65,269
Pre-provision profit ^(b)	50,306	53,295	50,451
Provision for credit losses	(9,256)	17,480	5,585
Net income	<i>bottom line</i> \$ 48,334	\$ 29,131	\$ 36,431
Per common share data			
Net income per share:	<i>How much you make off your sales</i>	<i>Standardized</i>	
Basic	\$ 15.39	EPS \$ 8.89	\$ 10.75
Diluted	15.36	8.88	10.72
Book value per share	88.07	81.75	75.98
Tangible book value per share (TBVPS) ^(b)	71.53	66.11	60.98
Cash dividends declared per share	3.80	3.60	3.40
Selected ratios			
<i>easy to compare</i>			
Return on common equity	19%	12%	15%
Return on tangible common equity (ROTCE) ^(b)	23	14	19
Liquidity coverage ratio (average) ^(c)	111	110	116
Common equity Tier 1 capital ratio ^(d)	13.1	13.1	12.4
Tier 1 capital ratio ^(d)	15.0	15.0	14.1
Total capital ratio ^(d)	16.8	17.3	16.0
Selected balance sheet data (period-end)			
Loans	\$ 1,077,714	\$ 1,012,855	\$ 997,620
Total assets ^(a)	3,743,567	3,384,757	2,686,477
Deposits	2,462,303	2,144,257	1,562,431
Common stockholders' equity	259,289	249,291	234,337
Total stockholders' equity	294,127	279,354	261,330

Profit and Loss (P/L) by Business Segment

Segment Results - Managed Basis

The following tables summarize the Firm's results by segment for the periods indicated.

Year ended December 31, (in millions, except ratios)	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Total net revenue	\$ 50,073	\$ 51,268	\$ 55,133	\$51,749	\$ 49,284	\$ 39,265	\$ 10,008	\$ 9,313	\$ 9,264
Total noninterest expense	29,256	27,990	28,276	25,325	23,538	22,444	4,041	3,798	3,735
Pre-provision profit/(loss)	20,817	23,278	26,857	26,424	25,746	16,821	5,967	5,515	5,529
Provision for credit losses	(6,989)	12,312	4,954	(1,174)	2,726	277	(947)	2,113	296
Net income/(loss)	20,930	8,217	16,541	21,134	17,094	11,954	5,246	2,578	3,958
Return on equity ("ROE")	41%	15%	31%	25 %	20%	14%	21 %	11%	17%
Year ended December 31, (in millions, except ratios)	Asset & Wealth Management			Corporate			Total		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Total net revenue	\$16,957	\$ 14,240	\$ 13,591	\$ (3,483)	\$ (1,176)	\$ 1,211	\$ 125,304	\$ 122,929	\$ 118,464
Total noninterest expense	10,919	9,957	9,747	1,802	1,373	1,067	71,343	66,656	65,269
Pre-provision profit/(loss)	6,038	4,283	3,844	(5,285)	(2,549)	144	53,961	56,273	53,195
Provision for credit losses	(227)	263	59	81	66	(1)	(9,256)	17,480	5,585
Net income/(loss)	4,737	2,992	2,867	(3,713)	(1,750)	1,111	48,334	29,131	36,431
Return on equity ("ROE")	33 %	28%	26%	NM	NM	NM	19%	12%	15%

The following sections provide a comparative discussion of the Firm's results by segment as of or for the years ended December 31, 2021 and 2020.

• Top line more important to investors b/c you can only cut so many costs

• Cut expenses to grow bottom line if top line is flat



Efficiency and Returns

$R_{\text{ratio}} = \text{larger number good}$

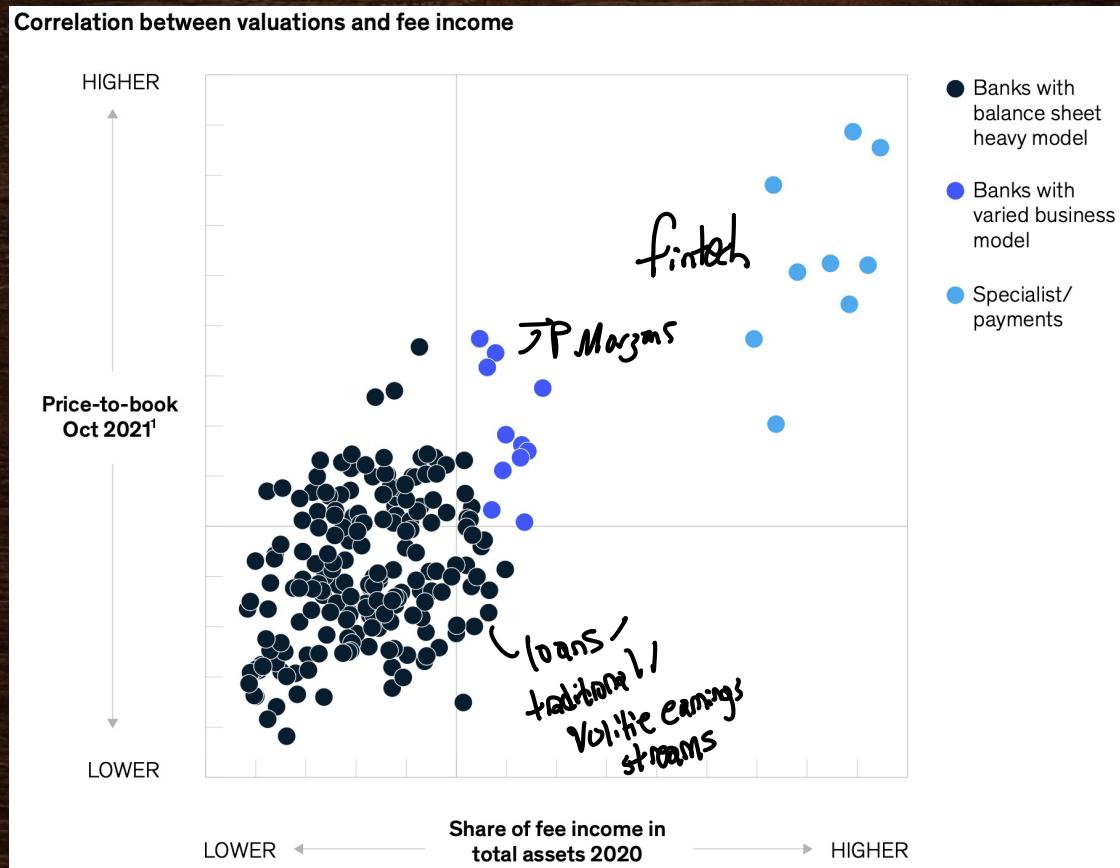
Return % : large number good

JPMorgan Chase Is in Line with Best-in-Class Peers in Both Efficiency and Returns						
	Efficiency (expenses)		Returns			
	JPM 2021 overhead ratio	Best-in-class peer overhead ratio ¹	higher % better	JPM 2021 ROTCE	Best-in-class all banks ROTCE ^{2, 4}	Best-in-class G-SIB ROTCE ^{3, 4}
Consumer & Community Banking	58% ✗	✓ 51% COF-DC & CB		41% ✓	31% BAC-CB	31% BAC-CB
Corporate & Investment Bank	49% ✓	✗ 53% GS-IB & GM		25% ✗	26% GS-IB & GM	26% GS-IB & GM
Commercial Banking	40% ✓	✗ 42% PNC		21% ✓	20% Key	15% WFC-CB
Asset & Wealth Management	64% ✗	✓ 59% CS-PB & TROW		33% ✗	48% UBS-GWM & MS-IM	47% MS-WM & IM



What are key observations for each business group?

Higher Fee Income = Higher Valuations



fintech ~ unique loans

Credit Loss Provision

estimate of potential losses
on loans

Provision
driving profitability
- negative expenses
one good

Year ended December 31, (in millions)	2021	2020	2019
Consumer, excluding credit card	\$ (1,933)	\$ 1,016	\$ (378)
Credit card	(4,838)	10,886	5,348
Total consumer	(6,771)	11,902	4,970
Wholesale	(2,449)	5,510	615
Investment securities	(36)	68	NA
Total provision for credit losses	\$ (9,256)	\$ 17,480	\$ 5,585

A Credit Loss Provision is an estimation of potential losses that a company might experience due to credit risk.



What can we discern by observing this data?
What might we expect for 2022?

Credit Loss Provision – Management Discussion

2021 compared with 2020

The **provision for credit losses** was a net benefit driven by net reductions in the allowance for credit losses.

The net benefit in **consumer** was driven by:

- a \$9.5 billion reduction in the allowance for credit losses, reflecting improvements in the Firm's macroeconomic outlook, including \$7.6 billion in Card, and \$1.2 billion in Home Lending, which also reflects continued improvements in Home Price Index ("HPI") expectations, and
- lower net charge-offs predominantly in Card, as consumer cash balances remained elevated;
- the prior year included a \$7.4 billion net addition to the allowance for credit losses.

↳ *Prices are rising*

The net benefit in **wholesale** was due to a net reduction of \$2.6 billion in the allowance for credit losses across the LOBs, reflecting improvements in the Firm's macroeconomic outlook. The prior year included a \$4.7 billion net addition to the allowance for credit losses.



How can you reconcile the difference between a \$9.5 billion reduction in allowance for consumer credit losses with the number reported on the previous page?

Balance Sheet - Assets

Selected Consolidated balance sheets data

December 31, (in millions)	2021	2020	Change
Assets			
Cash and due from banks	\$ 26,438	\$ 24,874	6 %
Deposits with banks	714,396	502,735	42
Federal funds sold and securities purchased under resale agreements	261,698	296,284	(12)
Securities borrowed	206,071	160,635	28
Trading assets	433,575	503,126	(14)
Available-for-sale securities	308,525	388,178	(21)
Held-to-maturity securities, net of allowance for credit losses	363,707	201,821	80
Investment securities, net of allowance for credit losses	672,232	589,999	14
Loans	1,077,714	1,012,853	6
Allowance for loan losses	(16,386)	(28,328)	(42)
Loans, net of allowance for loan losses	1,061,328	984,525	8
Accrued interest and accounts receivable	102,570	90,503	13
Premises and equipment	27,070	27,109	-
Goodwill, MSRs and other intangible assets	56,691	53,428	6
Other assets ^(a)	181,498	151,539	20
Total assets	\$ 3,743,567	\$ 3,384,757	11 %

Balance Sheet – Management Discussion

Cash and due from banks and deposits with banks

increased primarily as a result of the continued growth in deposits and limited deployment opportunities in Treasury and CIO. Deposits with banks reflect the Firm's placements of its excess cash with various central banks, including the Federal Reserve Banks.

Money from covid fed end up on both sides
of JPM balance sheets

Balance Sheet - Liabilities

Selected Consolidated balance sheets data		2021	2020	Change
December 31, (in millions)				
Liabilities				
Deposits	\$ 2,462,303	\$ 2,144,257		15
Federal funds purchased and securities loaned or sold under repurchase agreements	194,340	215,209	(10)	
Short-term borrowings	53,594	45,208	19	
Trading liabilities	164,693	170,181	(3)	
Accounts payable and other liabilities ^(a)	262,755	231,285	14	
Beneficial interests issued by consolidated variable interest entities ("VIEs")	10,750	17,578	(39)	
Long-term debt	301,005	281,685	7	
Total liabilities	3,449,440	3,105,403	11	
Stockholders' equity	294,127	279,354	5	
Total liabilities and stockholders' equity	\$ 3,743,567	\$ 3,384,757	11 %	

Deposits increased across the LOBs primarily driven by the effect of certain government actions in response to the COVID-19 pandemic. In CCB, the increase was also driven by growth from new and existing accounts across both consumer and small business customers.

Cash Flow

(in millions)	Year ended December 31,		
	2021	2020	2019
Net cash provided by/(used in)			
Operating activities	\$ 78,084	\$ (79,910)	\$ 4,092
Investing activities	(129,344)	(261,912)	(52,059)
Financing activities	275,993	596,645	32,987
Effect of exchange rate changes on cash	(11,508)	9,155	(182)
Net increase/(decrease) in cash and due from banks and deposits with banks	\$ 213,225	\$ 263,978	\$ (15,162)

Operating activities

JPMorgan Chase's operating assets and liabilities primarily support the Firm's lending and capital markets activities.

Investing activities

The Firm's investing activities predominantly include originating held-for-investment loans and investing in the investment securities portfolio, and other short-term instruments.

Financing activities

The Firm's financing activities include acquiring customer deposits and issuing long-term debt and preferred stock.

RISK MANAGEMENT

Bank Risk Classification

$$\text{Total Risk} = \text{Systematic Risk} + \text{Idiosyncratic Risk}$$

external risk

internal factor

unique to particular firm

Systematic Risk

Systematic risk arises as a result of various external factors such as political factors, economic factors, and sociological factors.

- Systematic risks are *non-diversifiable* in nature and *cannot be controlled or minimized*
- Systematic risks are *unavoidable*
- A systematic risk will tend to *disrupt not just the whole of the market but an economy too*
- Common examples include inflation, price movements, fluctuation in interest rates, rise in unemployment, etc.
- More recent examples include the Financial Crisis of 2008 and the Covid pandemic

Idiosyncratic Risk

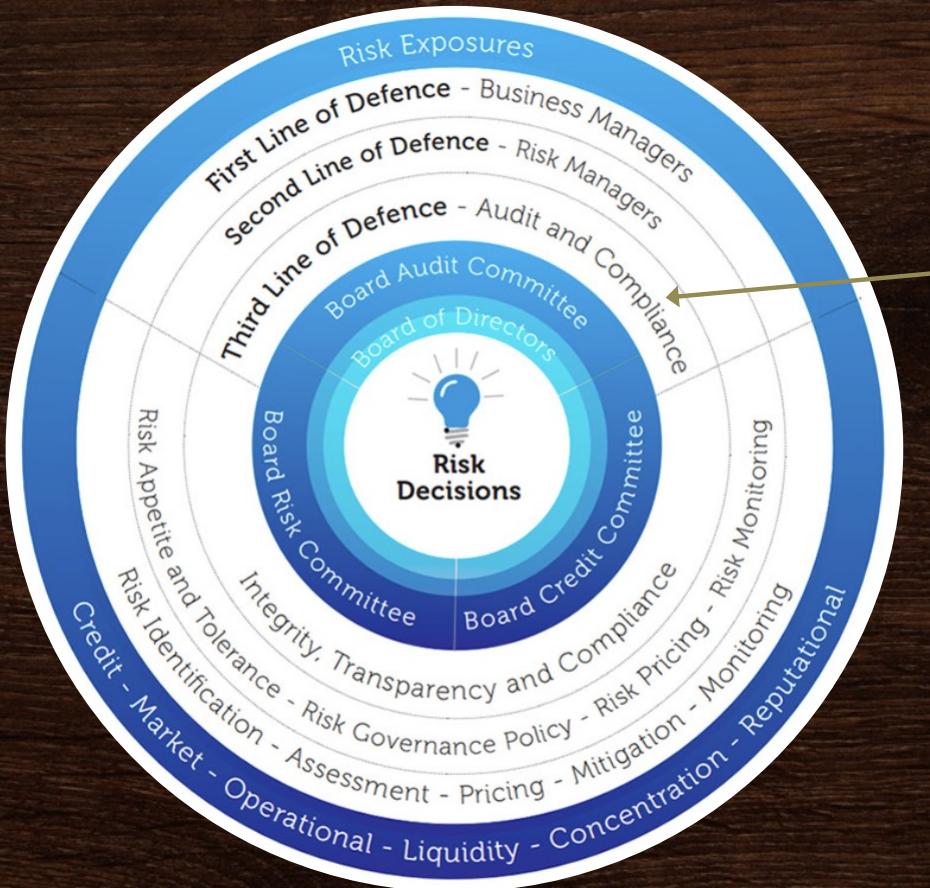
Idiosyncratic risk, also known as unsystematic risk, arises as a result of various internal factors taking place within an organization

- Idiosyncratic risks are *diversifiable* in nature and *can be controlled, minimized and even avoided* by the management of an organization
- Idiosyncratic risks are *avoidable*
- The major sources of such risks are risks pertaining to finances, business, and insolvency
- Examples include competition, management decisions, operational cost structure, labor, regulation, changes in strategy

Bank Idiosyncratic Risks Types



Bank Risk Management Framework



JPMC 3 Lines of Defense

trigger limits

make sure works properly

First Line of Defense “Risk Ownership”

Responsible entities:

- Each LOB
- Business Control Function

Responsibilities

- Identify risks
- Design and execute controls to manage risks
- Catalog material risks in a central repository and review on a periodic basis
- Adhere to applicable laws, rules, regulations

Second Line of Defense “Risk Challenge”

Responsible Entities

- Risk Management
- Compliance

Responsibilities

- Independently assess and challenge the 1st line of defense risk management practices
- Test business controls
- Adhere to applicable laws, rules, regulations

Third Line of Defense “Independent Review”

Responsible Entity

- Internal Audit

Responsibilities

- Objectively assess of the adequacy and effectiveness of firmwide processes, controls, governance, and risk management

JPMC Risk Governance

each committee has charter



Bank Risk Committee Examples

Committees	Key Objectives	Committees	Key Objectives
Board Integrated Risk Management Committee (BIRMC)	To ensure that the Bank - wide risks are managed within the risk strategy and appetite established by the Board of Directors	Credit Policy Committee <i>credit portfolio</i>	To review and approve credit policies/procedures to ensure that all credit portfolios are properly managed within the lending strategies of the Bank.
Board Credit Committee (BCC)	To assist the Board to analyse and review the credit risk control measures in the lending area and compliance with the CBSL regulations and evaluation and recommendation of high value credit proposals.	Executive Committee on Monitoring NPAs <i>covid</i>	To review and monitor the Bank's Non-Performing Advances (NPAs) above Rs.5.0 Mn. classified within the preceding one-year period to initiate timely corrective actions to prevent/reduce credit losses.
Executive Integrated Risk Management Committee (EIRMC)	To monitor and review all the risk exposures and risk-related policies/procedures affecting credit, market and operational areas in line with the directives from BIRMC	<u>Business Continuity Management Steering Committee (BCMSC)</u>	To direct, guide and oversee the activities of the Business Continuity Plan (BCP) of the Bank which aligns with the strategic direction provided by the Board with regard to BCP development and maintenance
<i>Credit exposure</i> Assets and Liabilities Committee (ALCO)	To optimise the Bank's financial goals, while maintaining market and liquidity risks within the Bank's risk appetite.	<i>information risk</i> Information Security Council (ISC)	To support in continuously meeting the information security objectives and requirements of the Bank.

Market Risk

- stress testing
- Set limits on position

Market Risk Management seeks to manage risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the Firm's market risk profile for senior management, the Board of Directors and regulators. **Market Risk Management is responsible for the following functions:**

- Maintaining a market risk policy framework
- Independently measuring, monitoring and controlling LOB, Corporate, and Firmwide market risk
- Defining, approving and monitoring of limits
- Performing stress testing and qualitative risk assessments

MARKET RISK MANAGEMENT

Market risk is the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.

Measures used to capture market risk

There is no single measure to capture market risk and therefore Market Risk Management uses various metrics, both statistical and nonstatistical, to assess risk including:

- Value-at-risk (VaR)
- Stress testing
- Profit and loss drawdowns
- Earnings-at-risk
- Other sensitivity-based measures

Value at Risk – VaR and CVaR

Value at Risk (VaR) is a statistic that quantifies the extent of possible financial losses within a firm, portfolio, or position over a specific time frame.

$$\text{Value at Risk} = v_m \frac{v_i}{v_{i-1}}$$

Where:

v_i is number of variables on day i

m is the number of days from which historical data is taken

Conditional VaR

Also known as the expected shortfall, CVaR measures the tail risk of a portfolio. The smaller the CVaR, the better.

Market Risk

LOBs and Corporate	Predominant business activities	Related market risks	Positions included in Risk Management VaR	Positions included in earnings-at-risk	Positions included in other sensitivity-based measures
CCB	<ul style="list-style-type: none"> Services mortgage loans Originates loans and takes deposits 	<ul style="list-style-type: none"> Risk from changes in the probability of newly originated mortgage commitments closing Interest rate risk and prepayment risk 	<ul style="list-style-type: none"> Mortgage commitments, classified as derivatives Warehouse loans that are fair value option elected, classified as loans - debt instruments MSRs Hedges of mortgage commitments, warehouse loans and MSRs, classified as derivatives Interest-only and mortgage-backed securities, classified as trading assets debt instruments, and related hedges, classified as derivatives Fair value option elected liabilities^(a) 	<ul style="list-style-type: none"> Retained loan portfolio Deposits 	<ul style="list-style-type: none"> Fair value option elected liabilities DVA^(a)

derivatives

Market Risk – Monitoring and Control

Monitoring

Risk limits

- Market risk exposure is managed primarily through a series of limits set in the context of the market environment and business strategy.
- Market risk limits are set and managed independently by Market Risk Management, the LOBs, and the Corporate entity, taking into consideration market volatility, product liquidity, accommodation of client business, and management experience
- Limits include VaR and stress limits and may be supplemented by certain nonstatistical risk measures such as profit and loss drawdowns.
- Senior management is responsible for reviewing and approving risk limits. Limits that have not been reviewed within specified time periods by Market Risk Management are reported to senior management.

Control

If limits are broken

- Limit breaches are reported to Market Risk Management and senior management.
- Market Risk Management consults with appropriate members of the Firm to determine the suitable course of action required to return the applicable positions to compliance,
- This may include either a) a reduction in risk in order to remedy the breach or b) granting a temporary increase in limits to accommodate an expected increase in client activity and/or market volatility.

Market Risk - Additional Management Discussion

- There are 3 pages in the Annual Report dedicated to VAR, including 2 pages of discussion and 1 page of statistics
- Additional items discussed include ‘Other Risk Measures’ such as Stress Testing, Profit and Loss Drawdowns, Non-US\$ FX Risk, and other income-based sensitivity measures



"So what" behind this slide

Principals of Operational Risk Management

1. Strong risk management culture
2. Implement and maintain a formal Framework
3. Periodically review the Framework
4. Approve and review a risk appetite and tolerance
5. Establish a robust governance structure
6. Identify and assess inherent operational risks
7. Build an operational risk assessment into the approval process for all new products, activities, processes and systems
8. Regularly monitor operational risk profiles and material exposures to losses.
9. Control environment should include policies, processes and systems; appropriate internal controls; and appropriate risk mitigation strategies
10. Maintain business resiliency and continuity
11. Issue clear public risk disclosures
12. Sound governance forms the foundation for sound operational risk management
13. 3 Lines of Defense (LOD)
14. 1st LOD is business line management
15. 2nd LOD is an independent corporate operational risk function (Compliance)
16. The third line of defense is an independent review and challenge of the bank's controls, processes and systems (Internal Audit)
17. Good communication among the 3 LODs are part of good governance
18. Operational Risk Management should evolve as the business evolves

Operational Risk

The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events

- IT and Data risks are usually included in operational risk
- Outsourcing and vendor risk are significant risks to IT infrastructure
- Risks from models and AI / ML are increasing in prominence and are areas growing concern within operational risk
- Product risk (e.g., not performing as expected)
- People risk (e.g., theft, rogue trading, etc.)

Memorize Categorised Operational Risk Classifications

Internal Fraud	
Categories	Activity Examples
Unauthorized Activity	Transactions intentionally not reported Unauthorized transactions Mismarking of positions
Theft and Fraud	Credit fraud, worthless deposits, extortion, embezzlement, robbery, misappropriation, bribes, kickbacks

Execution, Delivery, Process Management	
Categories	Activity Examples
Transaction Capture, Execution & Maintenance	Miscommunication, data entry, maintenance error, Missed deadline, Model errors, Accounting error, Delivery failure, Collateral management failure, Reference Data Maintenance
Monitoring and Reporting	Failed mandatory reporting obligation, Inaccurate external report (loss incurred)
Customer intake and documentation	Client permissions / disclaimers missing, Legal documents missing / incomplete
Customer / Client Account Management	Unapproved access given to accounts, Incorrect client records (loss incurred), Negligent loss or damage of client assets
Counterparties	Non-client counterparty mis-performance, Misc. non-client counterparty disputes
Vendors and Suppliers	Outsourcing, vendor disputes

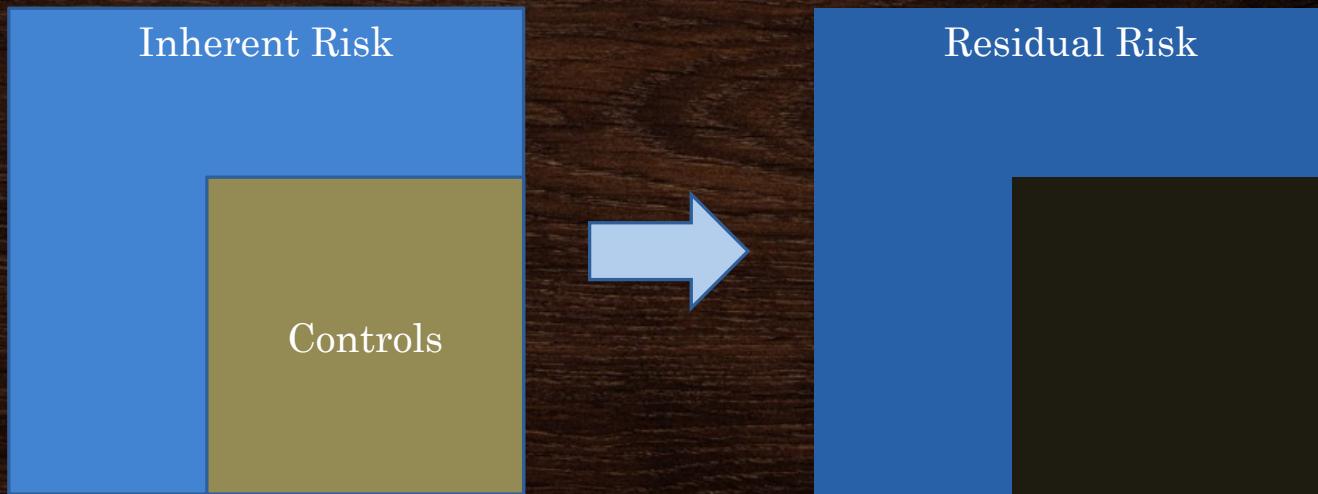
External Fraud	
Categories	Activity Examples
Theft and Fraud	Theft/robbery, forgery, check kiting
Systems Security	Hacking damage, theft of information (w. monetary loss)
Clients, Products, Business Practices	
Categories	Activity Examples
Suitability, Disclosure & Fiduciary	Fiduciary breaches / guideline violations, Suitability / disclosure issues (KYC, etc.), Retail customer disclosure violations, Breach of privacy, Aggressive sales, Account churning, Misuse of confidential information, Lender Liability
Theft and Fraud	Antitrust, Improper trade / market practices, Market manipulation, Insider trading (on firm's account), Unlicensed activity, Money laundering
Product Flaws	Product defects (unauthorized, etc.), Model errors
Selection, Sponsorship and Exposures	Failure to investigate client per guidelines, Exceeding client exposure limits
Advisory Activities	Disputes over performance of advisory activities



Operational Controls

A control is the method or set of methods by which a financial firm evaluates potential losses and takes action to reduce or eliminate such risks

risk → control • What's left is residual risk



Risk Control Self-Assessment (RCSA)

Explains why
behind controls &
residual risk

The RCSA process is a dynamic and iterative method for identifying important operational risks and key controls and for assessing and reporting on their effectiveness

Key points:

- It is dynamic process in that the RCSA changes as the business changes
- It is an iterative process (i.e., initial controls may be revised to increase effectiveness) *business changes*
- Each major business unit is considered to be an RCSA entity and conducts its own RCSA
- Entity RCSAs are consolidated to the corporate level where a RCSA rating is established for the bank
- Corrective actions are tracked and implemented continuously

RCSA Process

