

2019

Resolution Plan Public Filing



JPMORGAN CHASE & CO.

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Defined terms are capitalized and may be found in the Glossary beginning on page 135.

Our 2019 Resolution Plan Public Filing presents a high-level overview of our detailed, confidential resolution plan that we filed with the Federal Reserve and the FDIC, together referred to as the Agencies. Both the Public Filing and our confidential resolution plan provide a roadmap of how our core businesses and operations would continue to operate, or be wound down in an orderly manner, in a resolution event without jeopardizing the economy or global financial markets, or requiring any extraordinary government assistance or taxpayer support.

We last submitted a resolution plan in July 2017. In December 2017, the Agencies provided our firm with joint feedback that our July 2017 resolution plan submission adequately remediated the shortcomings they had identified and no further shortcomings or deficiencies were identified. The Agencies also identified four areas common to all U.S. G-SIB filers where more work may be needed to improve the resolvability of firms: intragroup liquidity, internal loss absorbing capacity, derivatives, and payment, clearing and settlement activities. In December 2018, the Agencies jointly issued the Final Guidance, which described the Agencies' expectations regarding key vulnerabilities in resolution plans and updated aspects of prior guidance.

The Final Guidance is organized around a number of key vulnerabilities in resolution: capital; liquidity; governance mechanisms; operational (including payment, clearing and settlement activities); legal entity rationalization and separability; and derivatives and trading activities. We have made key enhancements to better respond to this Final Guidance, including the new requirements, in addition to our own continued efforts to improve our resolvability.

We have had constructive dialogue with the Agencies about our efforts to make meaningful resolvability improvements across our firm to ensure that we meet the requirements set out by the Agencies, and we have undertaken specific enhancements in addition to those requirements that are tailored to our particular business model. In developing and delivering this plan, we believe that:

- our resolution plan responds fully to all feedback received to date from the Agencies and addresses the Final Guidance and the 165(d) Rule;
- our resolution plan meets the high standards established by our firm for addressing our resolvability;
- we are well positioned financially with loss absorbing resources and high quality liquid assets to withstand a variety of extreme loss scenarios;
- we have appropriate triggers, governance and reporting capabilities in place, coupled with the operational capabilities necessary to execute our Single Point of Entry strategy if ever needed; and
- our resolution-based assumptions and options are appropriately conservative and are meaningfully supported through robust governance, review and challenge.

Taken together, we believe that our resolution plan is credible.

This Public Filing provides an expanded overview of:

- our resolution planning;
- how JPMorgan Chase is resolvable;
- frequently asked questions about resolution;
- key enhancements we have made to JPMorgan Chase's resolvability;
- key facts and information about JPMorgan Chase; and
- other financial information disclosures required for resolution public filings.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Resolution Planning and Why JPMorgan Chase Is Resolvable

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Our Resolution Plan Shows We Can Be Orderly Resolved

Defined terms are capitalized and may be found in the Glossary beginning on page 135.

We recognize our responsibility to continually strengthen and safeguard our firm, given its vital role in the United States and global financial system. This sense of responsibility is embedded in the way we do business, and shapes our day-to-day operations, as well as our strategic planning for the future. We have continued to make significant changes since our last Resolution Plan—the Public Filing of which is linked [here](#)—to ensure our resiliency and resolvability. We want to take this opportunity to describe our progress so that our clients, employees and communities can be even more confident in us in times of stress.

In this section of this Public Filing, we:

- outline our resolution plan and why we believe it is credible;
- describe how we have a robust resolution strategy that will shield the U.S. financial system and economy from harm and U.S. taxpayers from losses in the highly unlikely event of our failure; and
- discuss how we have further refined our resolution plan to address evolving requirements, such as the Final Guidance, and through self-identified enhancements.

We believe that our resolution plan should be found credible by the Agencies, and that it continues to mitigate resolvability risk for JPMorgan Chase.

Our firm and other systemically important financial institutions can be resolved in an orderly manner.

We believe that systemically important financial institutions should be resolvable in an orderly way. This means that in an event of failure, a systemically important financial institution's operating subsidiaries can be stabilized so they can continue as going concerns or be wound down as necessary in an orderly manner:

- without interrupting the Critical Services and Operations, including deposit-taking and payment services that are essential to the continued stability

and health of the U.S. financial system and economy; and

- without extraordinary government assistance or any taxpayer support.

Our resolution plan shows how these goals can be achieved for JPMorgan Chase.

Financial strength supports our resolvability.

Ensuring our resolvability begins with minimizing the risk of failure. We have substantially strengthened our financial resilience and further reduced the possibility of failure in a financial crisis through many initiatives. Among these efforts has been the accumulation of extensive loss absorbing resources.

Successfully executing our Resolution Plans requires maintaining sufficient funding and liquidity to respond to a crisis. We measure our funding and liquidity by High Quality Liquid Assets, or HQLA, which includes U.S. Treasuries, sovereign debt, central bank reserves and other resources that can readily be converted to cash. HQLA may fluctuate from period to period primarily due to normal flows from client activity. As shown in Figure 1 at the end of 2018 we had an estimated \$529 billion of HQLA, which would more than cover peak short-term cash outflows in financial stress. We also have other stable sources of liquidity in order to reduce liquidity risk over a one-year horizon.

In addition to HQLA, we continue to maintain more than sufficient holdings of equity securities, fixed income debt securities and other unencumbered marketable securities that could quickly be sold, adding to our ability to raise additional liquidity if and when needed. As of December 31, 2018, we had approximately \$226 billion of these unencumbered marketable securities.

Figure 1 illustrates the growth of our loss absorbing and liquidity resources, including a 500 basis point increase in our CET1 ratio and more than doubling of our liquidity resources.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Shows We Can Be Orderly Resolved

By holding more than sufficient liquidity and capital resources and reducing our reliance on short-term liabilities, we have significantly improved our resiliency in the face of potential financial stress. Our deep capital and liquidity resources, as of December 31, 2018, will make it easier to execute our resolution plan successfully in the unlikely event that we were to experience a potential resolution event.

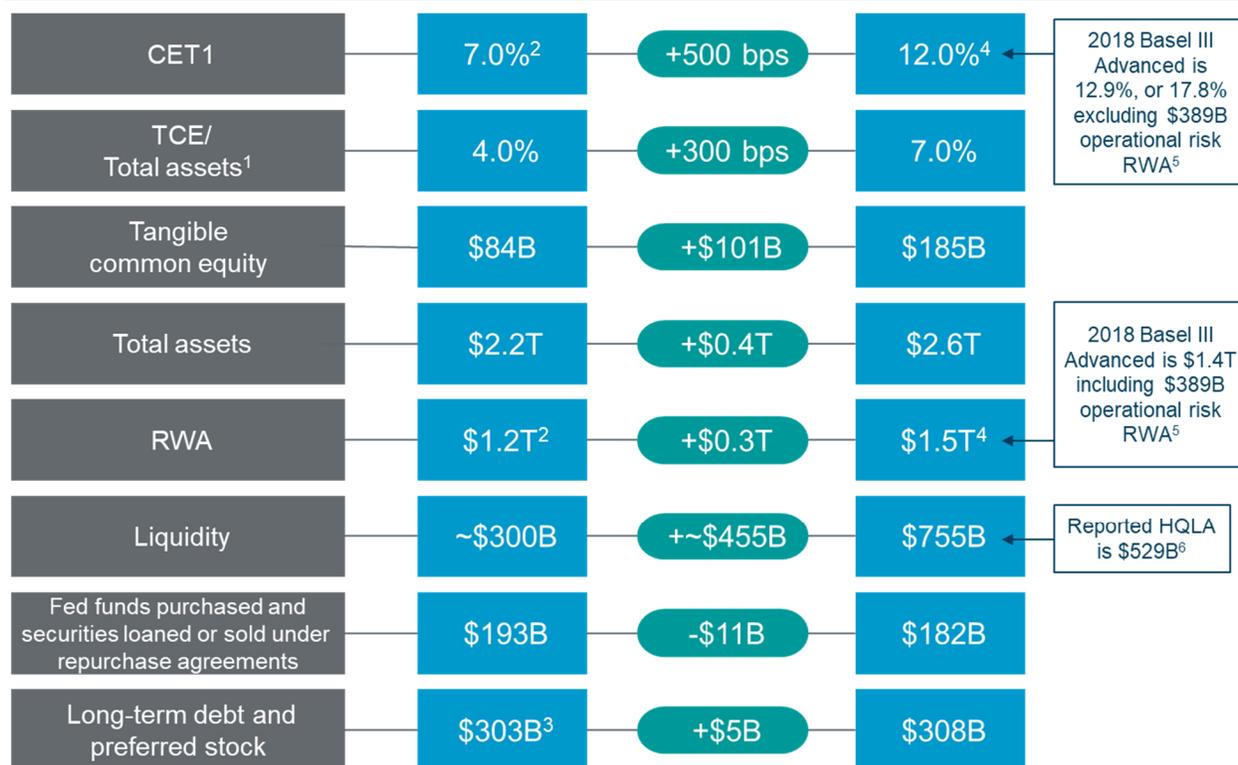
Our robust recovery plan establishes the actions we would take to stabilize our operations, capital and liquidity positions and avoid failure if we were to encounter, or find ourselves likely to encounter, such financial distress. We regularly update our separate recovery plan so we are prepared for the possibility of serious financial distress short of insolvency or other failure. Through the recovery planning process, we have provided the Federal Reserve and other regulators with comprehensive information and analyses about the firm and its capabilities and available alternatives to raise liquidity and capital in severe market conditions.

In addition, we regularly conduct extensive capital and liquidity stress testing and planning, including self-imposed internal stress tests, as well as required stress tests, such as the Federal Reserve's Comprehensive Capital Analysis and Review, commonly referred to as CCAR, and the Dodd-Frank Act Stress Test, commonly referred to as DFAST. We continue to make substantial investments in automating the reporting of our CCAR and DFAST results. These initiatives, and others described in this filing, significantly reduce the probability that the JPM Group could fail in a crisis scenario.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Shows We Can Be Orderly Resolved

Figure 1. Our Fortress Balance Sheet (As of December 31)



¹ Excludes goodwill and intangible assets.

² CET1 reflects Tier 1 common; reflects Basel I measure.

³ Includes trust preferred securities.

⁴ Reflects Basel III Standardized measure which is the firm's current binding constraint.

⁵ Operational risk RWA is a component of RWA under Basel III Advanced measure.

⁶ Represents the amount of HQLA included in the liquidity coverage ratio.

B = Billions

T = Trillions

bps = basis points

CET1 = Common equity Tier 1 ratio

TCE = Tangible common equity

RWA = Risk weighted assets

Liquidity = HQLA plus unencumbered marketable securities, which includes excess liquidity at JPMorgan Chase Bank, N.A

HQLA = High quality liquid assets. Predominantly includes cash on deposit at central banks and highly liquid securities including U.S. agency mortgage backed securities, U.S. Treasuries and sovereign bonds

LCR = Liquidity coverage ratio

An orderly resolution requires proper planning.

A critical element for the effective unwinding of a large, systemically important financial institution is to engage in extensive advance preparation and planning, which is generally referred to as resolution planning. Resolution planning ensures that, if necessary, systemically important financial institutions would have the operational, legal and financial strategies to support the ability to fail in an orderly manner—in other words, to be effectively resolved.

Resolution planning centers on the creation of a resolution plan, also referred to as a “living will.” Under section 165(d) of the Dodd-Frank Act, JPMorgan Chase is required periodically to submit to the Agencies a plan for its rapid and orderly resolution under the U.S. Bankruptcy Code in the event of material financial distress or failure.

The key elements that a resolution plan is required to include are:

- a resolution strategy that uses the normal bankruptcy process and does not rely upon government support or pose risk to the U.S. financial system;
- robust financial analysis of capital and liquidity resources and needs during implementation of the resolution strategy;
- information about critical aspects of the firm, such as the interconnections among its Key Operating Entities, businesses and systemic functions;
- assessments of the resolvability of the firm and identification of possible barriers to the firm’s resolvability; and
- advance preparation of workable solutions and alternative mitigants to identified barriers to resolvability or to the successful execution of the resolution strategy.

We have sought to ensure that we have successfully addressed and continue to enhance these key elements so that we have the capabilities to execute our resolution plan in a crisis.

An effective resolution plan must provide a roadmap to key stakeholders for successful implementation in a crisis.

A credible plan is one the Agencies believe would facilitate an orderly resolution of a firm under the U.S. Bankruptcy Code. On December 19, 2017, the Agencies determined that our 2017 resolution plan satisfactorily addressed the shortcomings identified in our 2015 Resolution Plan. No new deficiencies or shortcomings were noted.

Beyond the 165(d) Rule, the Agencies have issued a variety of public and confidential feedback and guidance over the course of the last several years, culminating in the Final Guidance in December 2018. The Final Guidance consolidated and superseded various feedback and guidance that the Agencies had previously provided over the years.

The public feedback, Final Guidance and other related publications are available at the Agencies’ websites.

We believe that an effective resolution plan must not only respond to the feedback, guidance and rules of the Agencies, but also meet our own resolvability expectations. Therefore, we have looked beyond the words of the resolution planning rules and the instructions of the Agencies to understand and address our unique resolvability issues.

For this Resolution Plan, we have addressed the Final Guidance and the 165(d) Rule as well as self-identified and executed further improvements to our firm’s resiliency and resolvability. Even though resolution planning has been an iterative process, the core of our resolution strategy and our approach to resolution planning remains the same.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Shows We Can Be Orderly Resolved

Our comprehensive Crisis Management Framework and experienced crisis management team support the resolution strategy.

We maintain a comprehensive Crisis Management Framework to support our Resolution Plan. As shown in Figure 2, this framework is designed around what we view as the three pillars of our Resolution Plan:

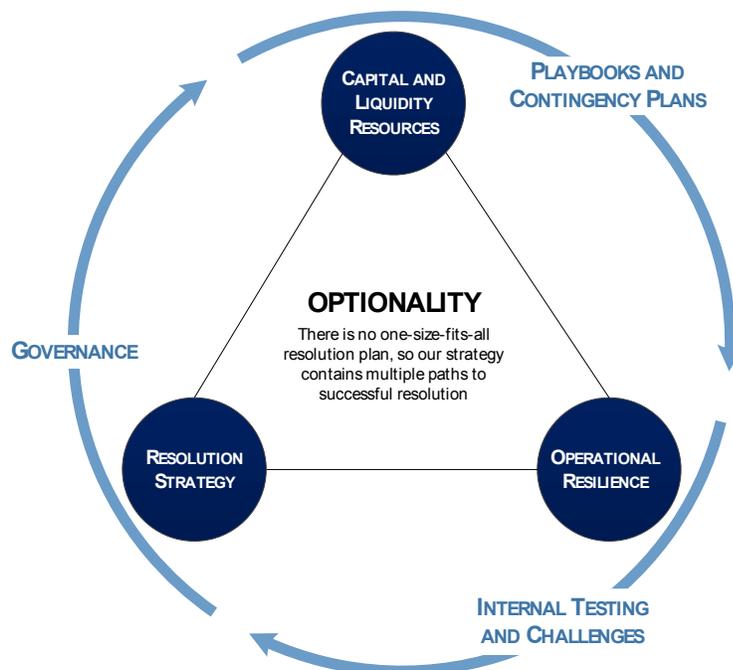
- **our capital and liquidity resources**—the financial resources necessary to execute the resolution strategy successfully;
- **our resolution strategy**—the steps that we would take to orderly resolve the firm in an orderly manner under Chapter 11 of the U.S. Bankruptcy Code; and
- **our operational resilience**—our ability to continue operations uninterrupted during resolution and the capability to execute the resolution strategy successfully.

Our Crisis Management Framework provides meaningful optionality within each of these three pillars, which we believe is critical in resolution planning.

Our Crisis Management Framework also includes:

- **governance**—robust mechanisms that govern the firm’s transition through each stage of the resolution timeline, starting with Business as Usual to recovery and ultimately to resolution, and ensures execution of our plan in a timely manner under a wide variety of scenarios;
- **playbooks and contingency plans**—a broad array of playbooks that provide a comprehensive and practical roadmap to implementing our Resolution Plan, and contingency plans for maintenance of funding, services and other resources during a resolution event; and
- **internal testing and challenges**—extensive internal testing and challenges to confirm the sufficiency of our resources and our operational preparedness to execute the resolution plan as designed.

Figure 2. Our Crisis Management Framework



Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Shows We Can Be Orderly Resolved

We maintain significant flexibility for our financial resources, resolution strategy and operational capabilities in our Resolution Plan.

With respect to our capital and liquidity resources, we maintain flexibility by:

- **Allocating the firm's financial resources based on the projected needs of our Key Operating Entities.** We have estimated the capital and liquidity that each of our Key Operating Entities would need in a resolution scenario, and maintain an appropriate balance of projected resolution liquidity and capital resources at all Key Operating Entities. We also maintain at an intermediate holding company—JPMorgan Chase Holdings LLC or IHC—a central buffer of extra financial resources that can be distributed to Key Operating Entities to accommodate a range of resolution scenarios. This buffer ensures that we will be able to provide a Key Operating Entity with additional financial resources, if needed. We believe that we have appropriately balanced the certainty associated with prepositioning capital and liquidity resources at Key Operating Entities with the flexibility provided by holding a central buffer of financial resources at IHC.

Within our resolution strategy, we maintain flexibility by:

- **Improving the divestiture-readiness of all of our businesses.** We have completed many initiatives that further support the divestiture-readiness for *all* of our key businesses. We have identified 21 components of our business, referred to as Objects of Sale, as attractive sale, spin-off or IPO candidates, with any remaining business components designated as Objects of Unwind. We have conducted an extensive analysis of the potential buyers for each Object of Sale, based on which we developed tangible, comprehensive roadmaps to divest each component. We also have the ability to populate and make readily available comprehensive electronic data rooms for each Object of Sale to allow buyers to conduct due diligence. Moreover, we have identified the personnel, technology and other resources that would need to directly or indirectly be included in each Object of Sale so that a third-party buyer would be able to continue the relevant business without disruption. Transition services agreements could be established for entities that would be divested to

ensure the continued provision of services. By conducting the analysis of our personnel, technology and resources during Business as Usual conditions, we have significantly strengthened our operational readiness to carry out a sale of any of our Objects of Sale, whether or not it is called for in a resolution strategy.

- **Maintaining three actionable exit strategies for the firm from resolution.** We have identified, and maintained detailed analysis of, three exit options for our firm from resolution:
 1. one or more public offerings of the shares of NewCo, the holding company for IHC and JPMCB post-bankruptcy, and the distribution of proceeds from the stock offerings to the parent company's bankruptcy estate;
 2. the distribution of NewCo shares to the parent company's creditors; and
 3. further divestitures of Objects of Sale.

Moreover, we are operationally prepared to execute each of these exit options. These exit strategies provide flexibility so that our resolution strategy can accommodate a range of conditions that may exist at the point when the firm is preparing to exit from operating under resolution proceedings.

With respect to our operational capabilities, we maintain flexibility by:

- **Maintaining extensive operational capabilities.** Over time, we have built up robust operational capabilities that are designed to support the uninterrupted provision of Critical Services, including the Critical Operations they support, throughout a resolution scenario and to facilitate the execution of all actions contemplated in our Resolution Plan. Significantly, we have enhanced our analysis of Critical Services by drilling into those services at a more granular level. We also have invested heavily in data and information systems, governance, legal, communications and other capabilities. Our various capabilities enhancements improve our ability to forecast resource needs as well as provide our boards and management with the ability to respond effectively to a wide range of potential stress events and conditions, thus significantly increasing the

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Shows We Can Be Orderly Resolved

likelihood that our Single Point of Entry strategy will be implemented successfully.

- **Maintaining alternative strategies, contingency actions or exit plans for key service providers.**
We have established an exit plan or alternative strategy for each of our key vendors, including transitioning to an affiliated service provider or to an alternative third-party service provider. We have also developed alternative strategies for all of the financial market utilities, also referred to as FMUs, and agent banks that we use worldwide to process payments and to clear and settle transactions. FMUs are multilateral systems that provide the infrastructure for transferring, clearing and settling payments, securities and other financial transactions among financial institutions or between financial institutions and the system. We have conducted an analysis of our key payment, clearing and settlement clients, and developed strategies designed to assure their continued access to payment, clearing and settlement services.

We have embedded resolution planning into our day-to-day operations and strategic decision-making at all levels of the firm.

An effective resolution plan must be actionable, meaning we must have the capabilities to be able to execute. As such, on top of implementing numerous enhancements to many of the core elements of our resolution plan, we continue to make significant changes to how we conduct our day-to-day operations and strategic planning in Business as Usual conditions. These changes are discussed throughout the sections that follow. Some key examples of how we have embedded resolution plan goals and principles into our Business as Usual operations are as follows:

- resolution planning is integrated with the Capital and Liquidity Management function within the office of the CFO, so resolution planning is part of our Business as Usual management of capital and liquidity resources as well as stress testing activities;
- our resolution liquidity and capital frameworks are embedded in our Business as Usual processes, procedures and reporting so that we have the capability to produce these analyses and estimates on a periodic and, if necessary, daily basis in a crisis;

- our LER Criteria are embedded in policies, procedures and governance so that legal entity structure, complexity and resolvability are considered in Business as Usual decision-making, including when considering new products or internal restructuring of existing operations;
- our master vendor contract template includes resolution-friendly termination and assignment provisions; our existing key vendor contracts and material agent bank contracts have been amended to include these provisions and we have instituted formal controls so that new contracts must include these resolution-friendly provisions; and
- our management of financial resources through the IHC which makes capital and liquidity contributions to Key Operating Entities in resolution also provides ongoing support to Key Operating Entities in Business as Usual.

We continue to believe that JPMorgan Chase is resolvable and can be satisfactorily resolved under a number of different resolution scenarios and conditions, but at the same time we remain focused on finding ways to further build upon the measures we have taken to support our resolvability and improve our capabilities.

We believe that our ability to execute our resolution plan successfully depends upon being prepared and having sufficient capabilities on the following fronts:

- legal issues and governance;
- financial resources;
- operational capabilities; and
- management information systems.

Figure 3 highlights the core elements that we have completed in these four categories and highlights more recent enhancement since the 2017 Resolution Plan.

Figure 3. Key Elements of JPMorgan Chase's Resolution Plan

(bold outlines indicate new or enhanced elements)

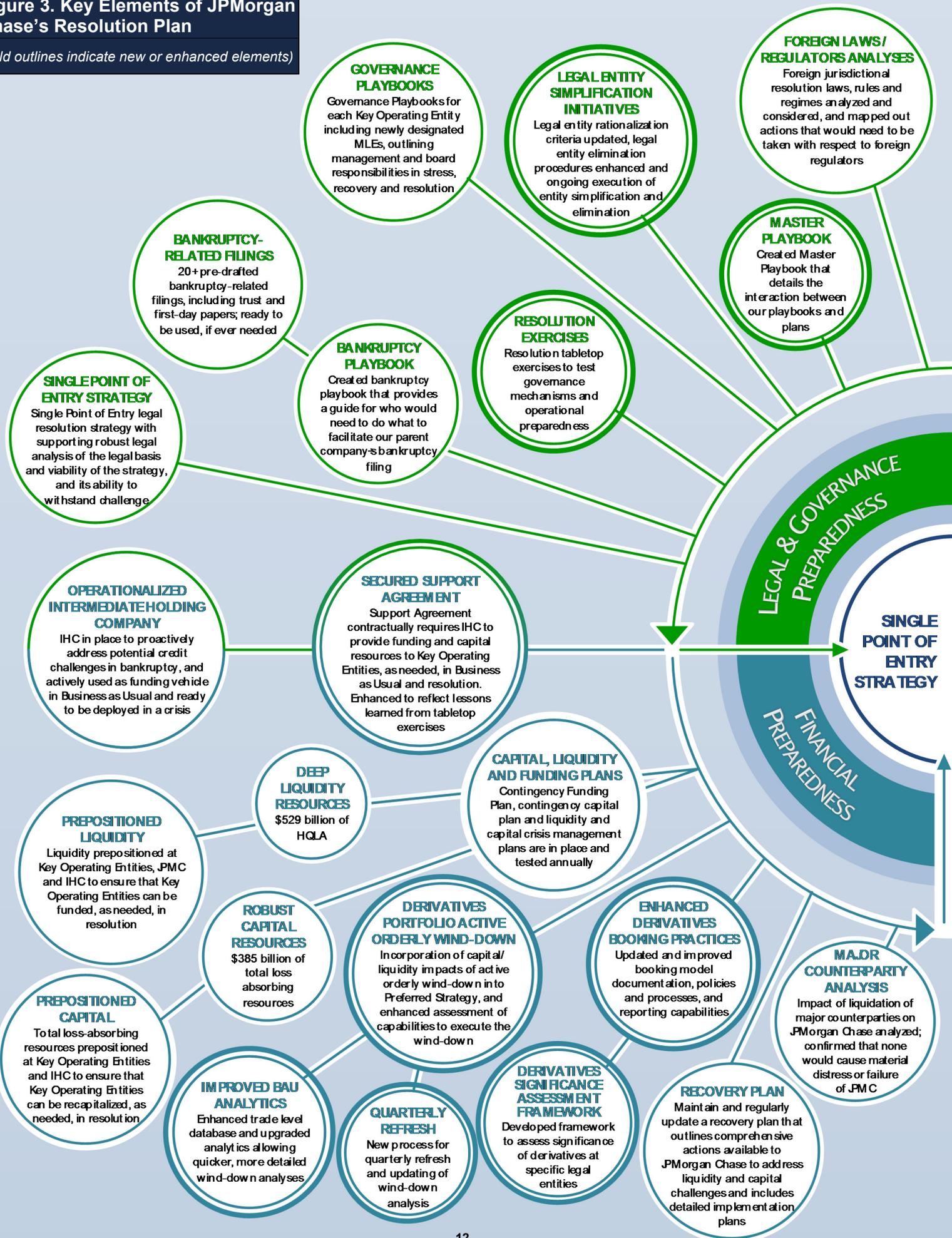
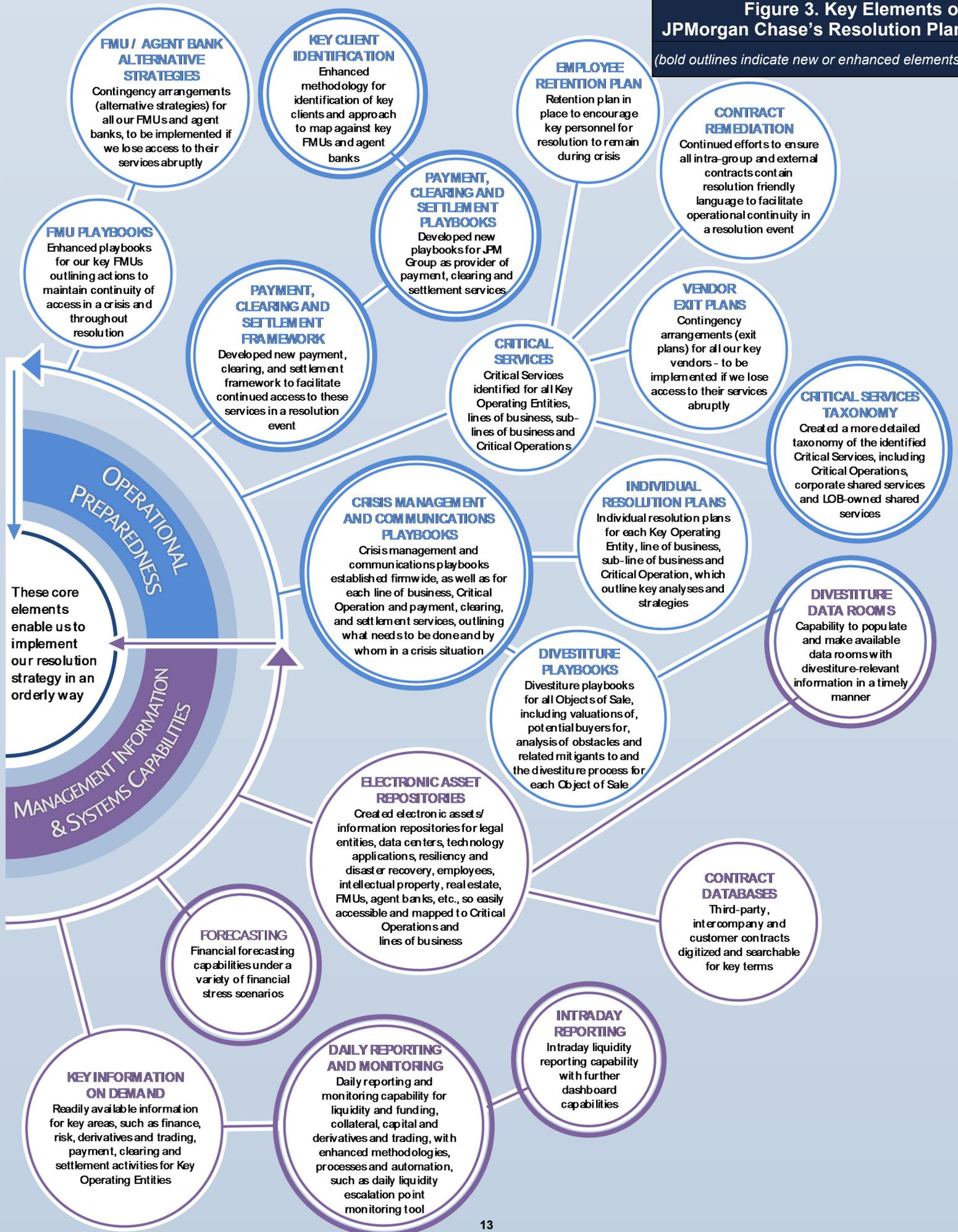


Figure 3. Key Elements of JPMorgan Chase's Resolution Plan

(bold outlines indicate new or enhanced elements)



Our Single Point of Entry Resolution Strategy Enables Orderly Failure Without Government or Taxpayer Support or Harm to the U.S. Economy

In our 2017 Public Filing, we highlighted the benefits of a Single Point of Entry strategy to resolve our firm in an orderly manner under the U.S. Bankruptcy Code, what we call our Preferred Strategy. Our Single Point of Entry strategy is designed to ensure that:

- only our parent company (JPMorgan Chase & Co. or JPMC) enters bankruptcy proceedings in any jurisdiction;
- each Key Operating Entity has sufficient capital and liquidity resources to continue operating as a healthy, but smaller, going concern outside of insolvency proceedings;
- our Critical Operations continue uninterrupted;
- our derivatives and trading activities can be wound down in an orderly manner to achieve a small portfolio that is not systemically important to financial markets;
- we have a range of options for divesting portions of the firm so the firm can shrink in an orderly manner under a wide variety of market conditions;
- only the shareholders and creditors of our parent company absorb the losses of the firm;
- no government assistance or taxpayer support is needed; and
- the portion of our firm that remains after successfully executing our Single Point of Entry strategy is substantially smaller and less complex.

Our Single Point of Entry strategy is driven by the core belief that it is better to recapitalize, reorganize or orderly wind-down our Key Operating Entities by using JPMorgan Chase's resources than it would be to retain resources at the parent company and allow Key Operating Entities separately to fail. Moreover, we have a responsibility to make sure that our Key Operating Entities can continue to provide the Critical Operations that the economy and general public rely on, in good times and bad.

In the subsections that follow, we first provide an overview of Single Point of Entry as a standard type of resolution strategy for large, systemically important

financial institutions, and then focus on the JPMorgan Chase Single Point of Entry strategy. We then:

- discuss how we conduct extensive financial forecasting to demonstrate that we have sufficient capital and liquidity resources to implement the strategy successfully; and
- describe the simpler and smaller firm that would emerge after using the strategy.

Single Point of Entry is optimal for resolving large financial institutions in an orderly manner in bankruptcy.

Single Point of Entry has been widely adopted as the preferred resolution strategy by many of the world's largest financial institutions. In fact, our primary U.S. and U.K. regulators have publicly embraced this strategy as the preferred resolution strategy for a large, systemically important financial institution. As suggested by its name, this resolution strategy is designed so that only a single entity within the financial institution—the parent company—enters into bankruptcy proceedings, rather than multiple operating entities entering into separate, and potentially competing, resolution proceedings.

At a high level, Single Point of Entry consists of three elements:

- the parent company of the financial institution enters bankruptcy proceedings under Chapter 11 of the U.S. Bankruptcy Code;
- both before and after the parent company enters into bankruptcy proceedings, Key Operating Entities of the financial institution have access to sufficient capital and liquidity support to continue running, albeit as smaller entities, and providing services to customers; and
- all of the Key Operating Entities continue operating outside of the parent company's bankruptcy long enough for each to be wound down in an orderly fashion, sold to another firm, spun off as a stand-alone firm or taken public through an IPO.

By recapitalizing and reorganized or orderly winding down, the Key Operating Entities, critical financial functions and services the firm provides are able to continue functioning each and every day, as necessary.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Single Point of Entry Resolution Strategy Enables Orderly Failure Without Government Assistance or Harm to the Broader U.S. Economy

This approach preserves as much as possible the going-concern value of the firm and imposes any losses on its shareholders and private creditors rather than on U.S. taxpayers. For these reasons, we, like many of our peers, maintain a Single Point of Entry strategy that, in our case, is designed to recapitalize and reorganize the most important parts of JPMorgan Chase. Some of these parts can then be unwound in an orderly manner or divested via a sale to a third-party, IPO or spin-off.

The Single Point of Entry strategy involves a bankruptcy filing by our parent company at a time when we have sufficient financial resources on hand—so much so that we are able to keep all of our Key Operating Entities adequately funded and capitalized throughout the Resolution Period. Our parent company needs to file for bankruptcy because virtually all available resources firmwide would be provided to support the Key Operating Entities to ensure they remain open. The committed use of that liquidity to support the firm's Critical Operations leaves our parent company without ready access to sufficient liquidity over the immediate term, thereby requiring a restructuring of its debts.

We would expect that the firm in a resolution scenario would rapidly deploy its liquid assets to meet outflows. As the amount of liquid assets at the firm decreases and the demands from customers, creditors and other stakeholders increase, however, Key Operating Entities would eventually be at risk of lacking sufficient liquid assets to meet their obligations as they come due.

Rather than wait for that point when resources are exhausted and Key Operating Entities are failing, our Single Point of Entry strategy is designed so that our parent company will prioritize the continued viability of these entities and file for bankruptcy early enough that firmwide liquidity would still be sufficient to support them through their stabilization following the parent company's bankruptcy.

As discussed in greater detail below, we have established various mechanisms to: (1) measure our available resolution resources against projected resolution needs; and (2) ensure that our parent company downstreams nearly all of its financial resources (except for certain excluded assets) to IHC before resolution resources fall below projected resolution needs. We have detailed firmwide frameworks

for projecting capital and liquidity needs in resolution and triggers indicating when the firm is approaching various stages of stress, recovery or resolution. Most importantly, our secured Support Agreement contractually obligates our parent company to downstream resources to IHC at the Point of Non-Viability, which is the point at which sufficient financial resources remain at the Key Operating Entities, and IHC to carry out the Single Point of Entry strategy. The secured Support Agreement also obligates IHC to use those resources to support the Key Operating Entities through their stabilization and the parent company's bankruptcy. These and other measures are designed to ensure that our parent company's bankruptcy filing is timed appropriately to preserve the continued viability of our Key Operating Entities.

Our Single Point of Entry strategy would limit the destabilizing effects of a possible failure by avoiding bankruptcy for the firm's subsidiaries.

This section describes our Single Point of Entry strategy, including: the businesses, operations and entities covered by the strategy; the six stages of stress/recovery and resolution; and the key assumptions and main implementation steps of the strategy.

Businesses, Operations and Entities in Our Resolution Plan

As required by the Agencies' resolution planning rules, our resolution plan focuses on a particular subset of businesses, operations and entities and branches of our firm, owing to their importance to the healthy functioning of the firm or the financial stability of the United States. For resolution planning purposes, we have designated 25 key business lines—including associated operations, services, functions and support—that upon failure would result in a material loss of the firm's revenue, profit or franchise value. These 25 business lines include: (1) our four principal operating business segments and Corporate, each of which is referred to as a line of business; and (2) the 20 sub-segments of these five lines of business, each of which is referred to as a sub-line of business, that report into the principal business segments.

Figure 4 describes our lines of business and sub-lines of business.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Single Point of Entry Resolution Strategy Enables Orderly Failure Without Government Assistance or Harm to the Broader U.S. Economy

The Agencies have identified certain of our operations, including associated services, functions and support, the failure or discontinuance of which could pose a significant threat to the financial stability of the United States. These operations are identified as Critical Operations.

As of July 1, 2019, we have designated 24 entities and non-U.S. branches as Material Legal Entities, or MLEs, because they are significant to the activities of our lines of business, sub-lines of business or Critical Operations. Our MLEs include our Key Operating Entities, together with our parent company and IHC.

Figure 4. Our Lines of Business and Sub-Lines of Business

Consumer & Community Banking	Corporate & Investment Bank	Commercial Banking	Asset & Wealth Management	Corporate
<ul style="list-style-type: none"> ◆ Consumer / Business Banking ◆ Home Lending ◆ Auto ◆ Merchant Services ◆ Credit Card 	<ul style="list-style-type: none"> ◆ Fixed Income ◆ Equities ◆ Global Clearing ◆ Prime Finance ◆ Custody & Fund Services ◆ Treasury Services ◆ Global Investment Banking 	<ul style="list-style-type: none"> ◆ Middle Market Banking ◆ Commercial Term Lending ◆ Corporate Client Banking ◆ Real Estate Banking 	<ul style="list-style-type: none"> ◆ Asset Management ◆ Wealth Management 	<ul style="list-style-type: none"> ◆ Treasury and CIO

We divide our Material Legal Entities into two ownership chains: (1) the JPMCB Bank Chain; and (2) the IHC Chain.

The JPMCB Bank Chain includes:

- our main bank (JPMorgan Chase Bank, N.A. or JPMCB), a U.S. national banking association with branches in 27 states and Washington, D.C., and six other branches abroad;
- six material foreign branches of JPMCB located in Hong Kong, London, Philippines, Singapore, Sydney and Tokyo;
- three merchant processing entities, also referred to collectively as the Paymentech Entities, that accept, process and settle payment transactions for merchants; and
- six other MLE subsidiaries, which are: J.P. Morgan Securities plc, or JPMS plc (a U.K. bank); J.P. Morgan AG, or JPMAG (a German bank); J.P. Morgan Bank Luxembourg S.A., or JPMBL;

JPMorgan Securities Japan Co., Ltd., or JPMSJ; J.P. Morgan Treasury Technologies Corporation, or JPMTTC, and Chase Issuance Trust, or CHAIT.

The IHC Chain includes:

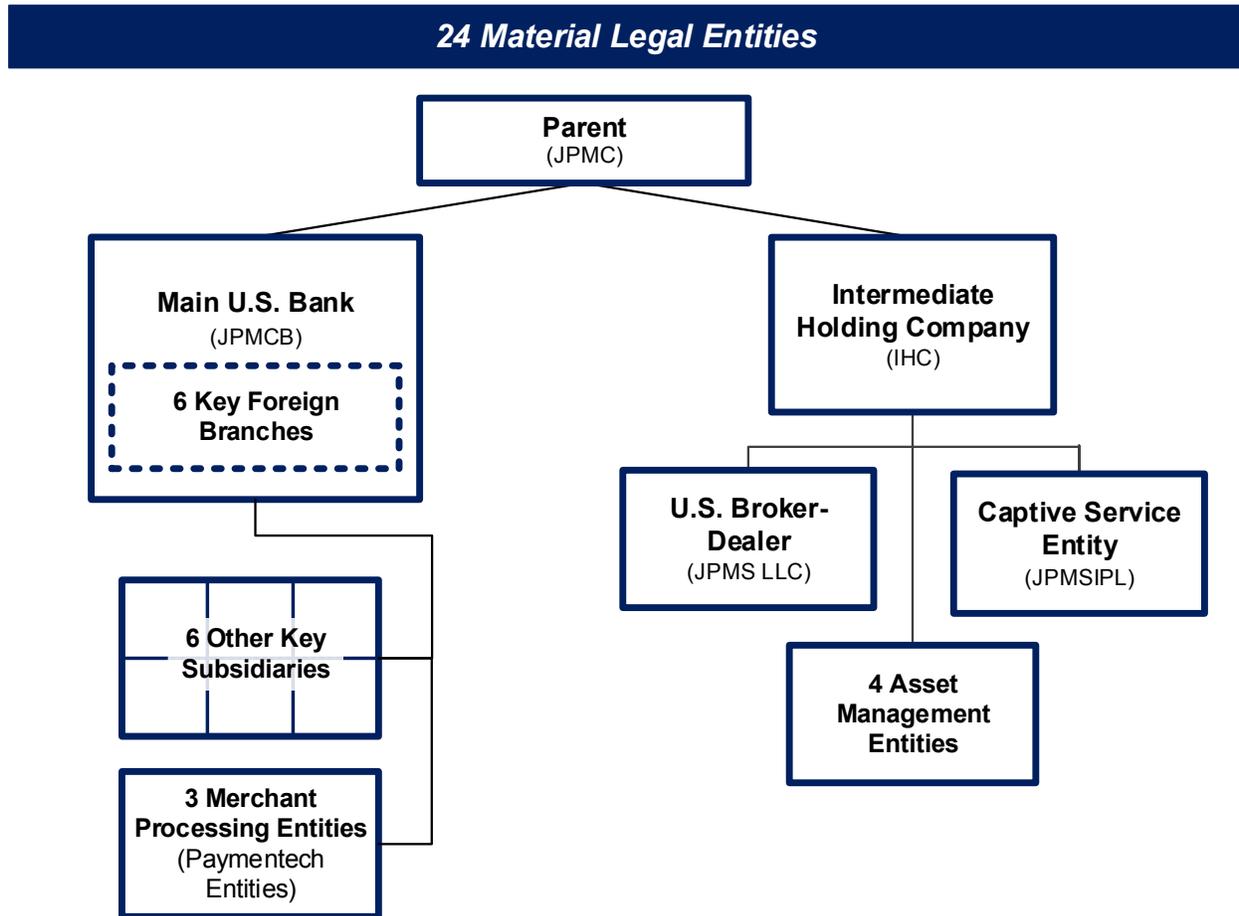
- our primary U.S. registered broker-dealer (J.P. Morgan Securities LLC or JPMS LLC), which is the firm's U.S. investment banking entity;
- our four asset management entities out of which our Asset Management sub-line of business is operated; and
- a captive service provider (J.P. Morgan Services India Private Limited or JPMSIPL), which is located in India, and provides data and transaction processing, IT support, call center and research support services to the firm, and not to third parties.

Figure 5 sets out the organizational structure of our Material Legal Entities.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Single Point of Entry Resolution Strategy Enables Orderly Failure Without Government Assistance or Harm to the Broader U.S. Economy

Figure 5. Material Legal Entities in Our Resolution Plan (as of July 1, 2019)



Stages of Stress/Recovery and Resolution

Our Single Point of Entry strategy is organized across six stages: Business as Usual; Stress Period; Recovery Period; Filing Preparation Period; Resolution Weekend; and Post-Resolution Event Period. We maintain qualitative and quantitative Stage Triggers that link the financial condition of the firm to the transition from Business as Usual all the way to resolution, so that our parent company timely files for bankruptcy and executes related pre-bankruptcy filing actions. A high-level summary of these six stages is set out below.

Business as Usual. Our firm is considered to be operating normally and none of the triggers associated with recovery or resolution plan actions have occurred.

Stress Period. Our firm experiences a stress event and senior management begins to monitor the impact of the

stress event and evaluates whether the firm's recovery plan should be implemented.

Recovery Period. Our recovery plan is formally activated, and senior management implements actions contemplated in the recovery plan, specifically the contingency funding plan.

Filing Preparation Period. Our firm experiences meaningful liquidity outflows or deterioration in capital, resulting in a rapid decline in JPMorgan Chase's trading value and a downgrade by all three major rating agencies to one notch below investment grade.

Resolution Weekend. Our parent company board votes on whether to authorize the parent company's bankruptcy filing under Chapter 11 of the U.S. Bankruptcy Code. Resolution Weekend may not actually occur over a weekend but we would expect it to be a

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period of approximately two days that begins upon the occurrence of a Point of Non-Viability and lasts until our parent company files for bankruptcy.

Post-Resolution Event Period. Our parent company proceeds through bankruptcy under Chapter 11 of the U.S. Bankruptcy Code, and the remainder of our firm is resolved under the Single Point of Entry strategy. The Post-Resolution Event Period lasts until bankruptcy proceedings are concluded. The Post-Resolution Event Period includes a Stabilization Period that begins immediately after our parent company files for bankruptcy and extends until each designated Key Operating Entity reestablishes market confidence.

Key Assumptions for Single Point of Entry Strategy

Our assumptions for our resolution plan are consistent with or more severe than those that the Agencies have prescribed by rule and through guidance. Some of the most significant assumptions underlying our Single Point of Entry strategy are summarized in the chart that follows.

Key Assumptions Include:

- No recovery actions or steps are taken during the Filing Preparation Period to reduce the size or interconnectedness of JPMorgan Chase's operations or to mitigate the risk of its failure
- Legal frameworks governing the bankruptcy are those that existed as of the date of our plan filing
- The ISDA Protocols are assumed to be in place and effective for counterparties
- Designated Key Operating Entities maintain access to FMUs by ensuring heightened operational and intraday liquidity and collateral requirements are met at the onset of stress
- Orderly active wind-down strategy for derivatives and trading portfolio included in Post-Resolution Event Period for 24 months
- No reliance on or benefit from liquidity and capital implications of any divestiture of an Object of Sale

Main Implementation Steps

Under our Single Point of Entry strategy, in the highly unlikely event that our firm experiences losses severe enough to position it at the Point of Non-Viability, we would take the following steps to file for bankruptcy proceedings for our parent company while also ensuring that all of our Key Operating Entities remain open, funded, capitalized and operating outside of insolvency proceedings.

We maintain a secured Support Agreement pursuant to which IHC and our main bank, JPMCB, are contractually bound to provide capital and/or liquidity support to certain Key Operating Entities in resolution. IHC is free of third-party debt and stands ready to make these capital and liquidity contributions from its central buffer of assets, which will be distributed to the Key Operating Entities consistent with the Support Agreement.

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During the Filing Preparation Period, we will:

- form a new debt-free holding company, NewCo, and a private trust, the Trust, which will be maintained for the sole benefit of our parent company's bankruptcy estate;
- appoint the initial directors and officers of NewCo and an independent trustee to control the Trust; and
- contribute NewCo to the Trust.

The exact timing of these actions during the Filing Preparation Period will be determined at the time based on the relevant circumstances.

Upon the occurrence of a Point of Non-Viability, Resolution Weekend begins and:

- the Board of our parent company would convene a special meeting to vote on whether the parent company should file for bankruptcy under Chapter 11 of the U.S. Bankruptcy Code;
- pursuant to the Support Agreement, our parent company would contribute to IHC nearly all of its remaining assets, other than the stock of JPMCB, the interests of IHC and certain other excluded assets (generally limited to liquid assets needed for bankruptcy expenses);
- each Key Operating Entity will begin, pursuant to the Support Agreement, to calculate, monitor and report on its capital and liquidity needs to see if it is projected to require any resources besides those capital and liquidity resources already prepositioned at the entity to successfully execute the resolution strategy; based on this information, IHC would determine whether additional capital and/or liquidity support should be provided; and
- IHC and, in certain instances, JPMCB, would provide capital and liquidity support to Key Operating Entities as and when needed to support their continued operation or orderly resolution.

Contemporaneously with the filing of its bankruptcy petition, our parent company would file an emergency motion—the Emergency Transfer Motion—seeking, on 48 hours' notice, authorization and approval from the U.S. court with jurisdiction over the parent company's bankruptcy proceedings (referred to as the bankruptcy court):

- to transfer the ownership interests of IHC to NewCo (which would be owned by the Trust) and then transfer the stock of JPMCB to IHC; and
- to obtain the benefit of the stay on cross-defaults and early termination rights under the ISDA Protocols (multilateral contractual agreements that provide for recognition of statutory stays under special resolution regimes and limitations on early termination rights due to cross-defaults under ISDA Master Agreements):
 - for NewCo to assume certain liabilities of the parent company, including its Guarantee Obligations relating to certain of its subsidiaries' Qualified Financial Contracts; or
 - as alternative relief, to elevate the priority of the parent company's Guarantee Obligations relating to its subsidiaries' Qualified Financial Contracts to the status of administrative expense claims in the bankruptcy case, senior in priority to pre-petition general unsecured claims; and
 - for the bankruptcy court to approve one of these two forms of relief by the later of 48 hours or 5:00 p.m. on the first business day after our parent company files for bankruptcy.

Our approach to compliance with the ISDA Protocols is to satisfy the conditions for the parent company to transfer its Key Operating Entities to NewCo (via the transfer of IHC to NewCo and JPMCB to IHC), and for NewCo to assume certain liabilities of the parent company, including its Guarantee Obligations relating to certain of its subsidiaries' Qualified Financial Contracts.

Promptly after our parent company files for bankruptcy and upon the bankruptcy court's approval of the Emergency Transfer Motion, all of our Key Operating Entities would be transferred to NewCo as its indirect subsidiaries via the transfer of IHC to NewCo and then JPMCB to IHC, and would continue as going concerns, thereby minimizing the negative impact of the parent company's bankruptcy on our customers, counterparties, other financial institutions and the global economy, and maximizing the value of the bankruptcy estate for the benefit of the parent company's creditors. All of our

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5,000 branches and over 16,000 ATMs would be open for business as usual.

The Credit Card, Merchant Services and Asset & Wealth Management Objects of Sale would be prepared for divestiture. Based on an expert analysis conducted by CIB Advisory, the Credit Card and Merchant Services Objects of Sale have been designated as candidates for sale to a third-party, IPO or spin-off, while the Asset & Wealth Management Object of Sale has been designated as a candidate only for sale to a third-party. Options and considerations for pursuing a sale, IPO or spin-off are discussed in detail in Divestiture Playbooks prepared for the Objects of Sale.

JPMS LLC would be recapitalized and remain an indirect wholly owned subsidiary of IHC, but would be reduced in size due to client-initiated outflows. We have prepared a robust analysis of JPMS LLC's and JPMS plc's ability to process prime brokerage asset transfers rapidly. These entities are able to reduce their size down to a small portfolio of trading assets, derivatives and residual cash. They would no longer be systemically important.

JPMSIPL's ongoing operating expenses are fully funded by fees from its affiliated clients—primarily JPMCB—which will continue to pay JPMSIPL during Resolution. JPMSIPL also has reserve cash and liquid assets to cover approximately six months of expenses. Thus, JPMSIPL would not need to enter resolution proceedings of its own, and would continue to provide services to affiliates. JPMSIPL would be expected to shrink over time during the Post-Resolution Event Period.

During the Post-Resolution Event Period, IHC and JPMCB would continue to provide capital and/or liquidity support to the other Key Operating Entities transferred to NewCo and the Trust pursuant to the terms of the Support Agreement until our Single Point of Entry strategy has been completed.

Creditors and shareholders of our parent company will realize value from its assets in accordance with the order of priority under the U.S. Bankruptcy Code.

Our Single Point of Entry strategy minimizes the systemic consequences of JPMorgan Chase's failure, minimizes the legal and operational challenges associated with resolution, including those related to global regulatory cooperation, and preserves maximum franchise and

enterprise value for our stakeholders. The strategy further enhances our ability to reduce our firm's size and systemic importance through the divestiture of Objects of Sale. Additionally, prepositioned liquidity and capital resources, coupled with the centralized buffer at IHC, support the orderly unwind of certain key wholesale businesses and operating entities, avoiding the need for additional insolvencies at the operating subsidiary level or regulatory intervention.

Our extensive financial forecasting helps us confirm that our firm has sufficient financial resources to execute Single Point of Entry successfully.

We rigorously analyze our plan through extensive financial forecasting in order to confirm that our resolution plan can be successfully implemented under varying conditions.

This financial forecasting tests our resolution plan in an overall environment that is consistent with the CCAR / DFAST Severely Adverse economic scenario, which we used in our Federal Reserve stress tests, and under a set of assumptions, including a Hypothetical Loss Scenario, which assumes additional losses to the firm. We refer to the financial forecasting of the execution of the Preferred Strategy under these conditions as the Hypothetical Resolution Scenario.

Our Hypothetical Resolution Scenario demonstrates that our firm will:

- have sufficient financial resources prepositioned at each Key Operating Entity or held at IHC's central buffer to meet all of those entities' capital and liquidity needs during resolution;
- recapitalize and sustain target capital levels throughout the Resolution Period; and
- be significantly reduced in size and scope at the conclusion of our strategy.

As part of our financial forecasting, we produced cash flow and pro forma financial statements on a daily basis through each Key Operating Entity's Stabilization Period, resulting in daily analyses for up to 90 days. We produced quarterly financial statements for each Key Operating Entity for the remainder of the Resolution

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Period after the Stabilization Period. Our pro forma financial statements show the ability of our Key Operating Entities to maintain target capital levels throughout the Resolution Period.

Hypothetical Loss Scenario

We are required by the Agencies to design a Hypothetical Loss Scenario identifying assumed idiosyncratic loss events—meaning loss events that impact only JPMorgan Chase—that would result in capital and liquidity impairments so severe that our parent company would have to file for bankruptcy under Chapter 11 of the U.S. Bankruptcy Code. Our Single Point of Entry strategy describes our Preferred Strategy to address the Hypothetical Loss Scenario.

Under our Hypothetical Loss Scenario, we assume that JPMorgan Chase, in the aggregate, suffers extraordinary and severe capital losses and liquidity outflows during the Filing Preparation Period. The liquidity outflows would result from modeled customer and counterparty behaviors and actions in an overall environment that is consistent with the CCAR / DFAST Severely Adverse economic scenario. We also assume that material losses occur at each of JPMC, JPMCB (including its London branch), JPMS plc and JPMS LLC and that these losses do not materially impair other Key Operating Entities. The Hypothetical Loss Scenario would eventually lead to the occurrence of a Point of Non-Viability, which would end in the decision by the board of the parent company to initiate bankruptcy proceedings.

The Hypothetical Loss Scenario can be designed in multiple ways with different losses and outflows or at different legal entities. Different assumptions could result in alternative strategic choices and actions. We have carefully designed our Single Point of Entry strategy to include significant optionality and flexibility to account for variations in an actual loss scenario, including by maintaining the central buffer at IHC. Moreover, in the unlikely event that the Preferred Strategy is not implemented, the resolution plan provides actionable alternative resolution strategies evidencing optionality to resolve the firm's business lines, Key Operating Entities and other assets without systemic disruption and without losses to taxpayers.

Key Assumptions for Hypothetical Resolution Scenario and Financial Forecasting

In addition to the significant assumptions underlying our Single Point of Entry strategy, all of our assumptions underlying the Hypothetical Resolution Scenario and our financial forecasting are consistent with or more severe than those required by the Agencies.

Key Assumptions Include:

- No more than a 30-calendar day Filing Preparation Period
- Limited borrowing from non-U.S. central banks where permitted
- Downgrade of the firm by all three major ratings agencies to one notch below investment grade at the end of the Filing Preparation Period
- No private sector capital or unsecured liquidity
- No extraordinary government support
- No Discount Window borrowings
- Able to raise liquidity privately in resolution through the sale and financing of securities. Before the Point of Non-Viability, only sales or financing of HQLA permitted
- Foreign jurisdictions take actions to preserve liquidity in their jurisdictions
- No debtor-in-possession financing is available to our parent company

Results of Our Financial Forecasting

We maintain sufficient external and internal loss absorbing resources to successfully execute the Single Point of Entry strategy, including in a CCAR / DFAST Severely Adverse economic environment, without causing any systemic impact on U.S. financial markets. Specifically, our forecasting results illustrate that:

- all of our Key Operating Entities would be able to, throughout the Resolution Period:
 - meet all of their funding obligations when due;

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- achieve and sustain target capital levels;
 - continue to conduct all of the firm's key businesses and Critical Operations on an uninterrupted basis; and
 - avoid the need for any extraordinary government support; and
- the size of the consolidated NewCo balance sheet would be substantially reduced after executing the Single Point of Entry strategy.

Single Point of Entry would result in a simpler and smaller firm.

As a result of the Single Point of Entry strategy and the expected divestiture of the Credit Card, Asset & Wealth Management and Merchant Services Objects of Sale, the post-resolution firm as a whole will be significantly smaller and engaged in a narrower scope of business. Specifically, the resulting post-resolution firm would resemble a large, regional bank group engaged almost exclusively in traditional retail and commercial banking activities, and would encompass:

- **Most of the entities in the JPMCB Bank Chain.** However, the assets of JPMCB and its material foreign branches are estimated to be reduced in a substantially weakened economic environment by approximately 40% post-resolution.
- **Significantly reduced broker-dealer activities.** JPMS LLC would be recapitalized and remain open, funded and operating, however, it is expected to be significantly reduced in size and customers would have substantially transferred to third-party providers. None of the Key Operating Entities engaged in broker-dealer activities (i.e., JPMS LLC, JPMSJ or JPMS plc) would be systemically important post-resolution. The assets of each of these Key Operating Entities are, on average, estimated to be reduced in a substantially weakened economic environment by over 80% post-resolution.

- **The remaining Key Operating Entities.** These other entities are mainly internal service providers and thus sufficiently self-sustaining. Although they would have smaller operations, these other entities would be able to continue in the ordinary course of business and would not need to be placed into resolution proceedings.

Although only three Objects of Sale are assumed to be sold in the modeled Single Point of Entry strategy, we would be fully prepared to divest as many additional Objects of Sale as necessary and wind-down any Objects of Unwind, particularly if there is a decision to further reduce the size and systemic footprint of the firm before it exits from bankruptcy.

The Trust could pursue any of the following options with respect to NewCo:

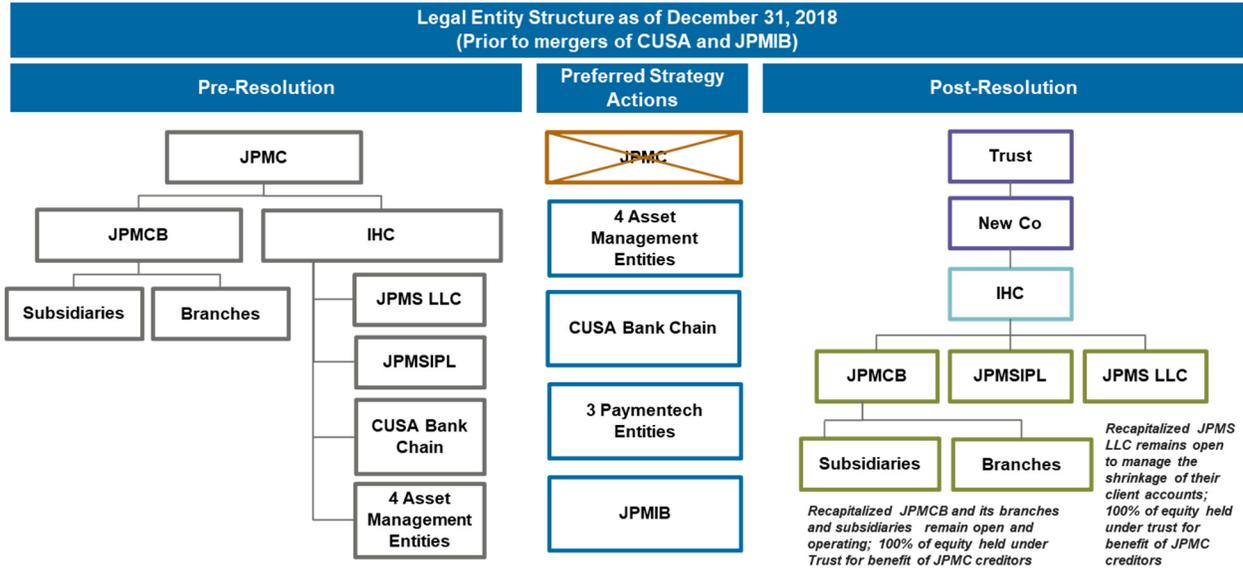
- **IPO.** The Trust could undertake one or more underwritten public offerings of its shares of NewCo. Proceeds of the stock offering would be distributed to the parent company's bankruptcy estate and ultimately to the parent company's creditors.
- **Distribution of shares in kind.** The Trust could distribute stock of NewCo to the parent company's creditors and, after these distributions, dissolve.
- **Further divestitures of the Objects of Sale.** The Trust could arrange for further divestitures of identified Objects of Sale.

Figure 6 and Figure 7 compare and contrast JPMorgan Chase before the execution of our Single Point of Entry strategy with the post-resolution firm, and demonstrate that the strategy results in a materially smaller and simpler firm.

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Figure 6. Illustration of Preferred Strategy (as of December 31, 2018)



As a result of the Preferred Strategy and as evidenced through the pro formas produced under the Hypothetical Resolution Scenario for the 2019 Resolution Plan, what would emerge from the resolution of JPM Group would essentially be a large, regional bank group engaged almost exclusively in traditional retail and commercial banking activities. Moreover, in the event that circumstances of the Hypothetical Resolution Scenario or market conditions are not amenable to the planned

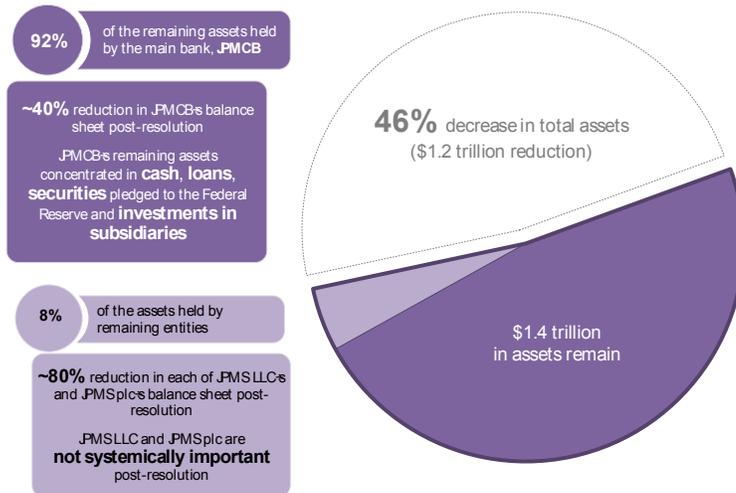
divestitures of the Merchant Services, Credit Card and Asset and Wealth Management Objects of Sale, or JPM Group's management, regulators or other stakeholders wish to shrink JPM Group beyond what we have contemplated and modeled in the Resolution Plan, we are prepared to decrease the size of the consolidated balance sheet further by divesting additional Objects of Sale or any other divestiture opportunity that presents itself in resolution.

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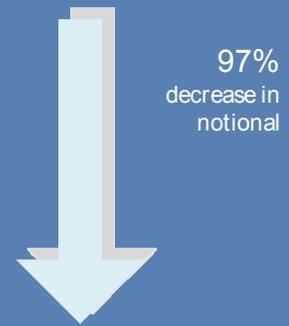
Figure 7. Business Before and After Resolution

A SMALLER AND LESS COMPLEX BALANCE SHEET

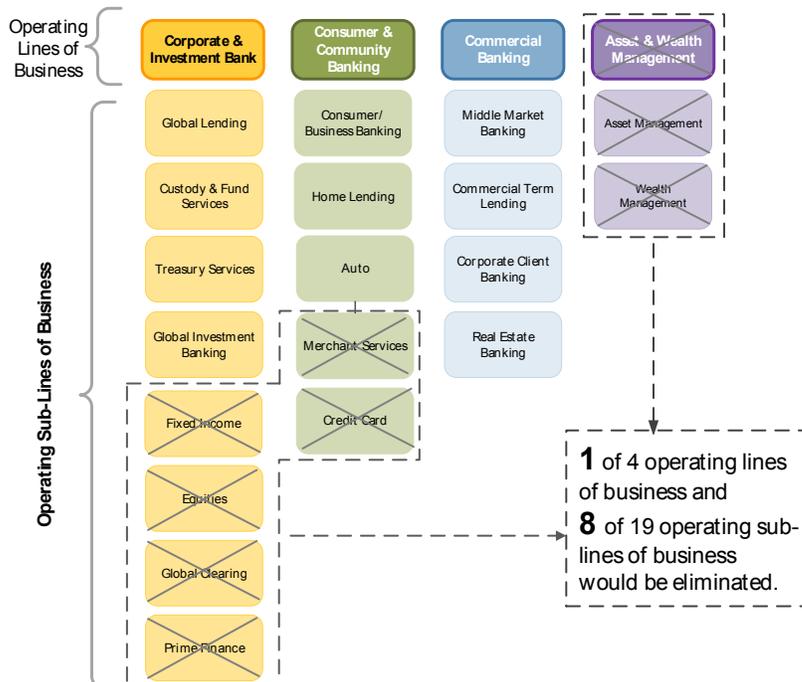


A SMALLER DERIVATIVES PORTFOLIO

The firm's derivatives and trading positions will be wound down in an orderly manner, leaving a small portfolio of residual positions and cash.



A FOCUS ON TRADITIONAL RETAIL AND COMMERCIAL BANKING



REDUCED FOREIGN ASSETS

The firm will emerge from resolution as a largely domestic, consumer-oriented institution.



¹ Based on the divestiture of only three Objects of Sale and the wind-down of broker-dealer activities

Our Resolution Plan Is Designed to Meet Real-World Challenges

An effective resolution plan must be tailored to the structure and activities of a firm and take into account the real-world challenges that the firm would likely face when seeking to orderly resolve itself in the face of material financial distress. We have conducted a multiyear analysis of our firm and the challenges that we could face in a potential resolution, and based on self-assessments and feedback from our regulators, have refined our resolution plan so that it fully addresses each of those challenges.

We believe that an effective resolution plan has eight key elements, which can be categorized according to our three pillars of resolution planning:

1. Capital and Liquidity Resources

- **Capital**—Capital is the ability of a firm to absorb losses, and so our Key Operating Entities must maintain or receive sufficient capital resources to support the uninterrupted operations of the firm as it is resolved.
- **Liquidity and Funding**—Liquidity is designed to provide the funding that enables the firm to meet its contractual obligations, and so our Key Operating Entities must maintain or receive sufficient liquidity resources—typically cash or assets that can be quickly sold or financed—to support the uninterrupted operations of the firm as it is resolved and businesses are divested.

2. Resolution Strategy

- **Governance Mechanisms**—Governance mechanisms are internal triggers that require information to be escalated to directors and senior management so that they can make timely and informed decisions, including when to implement the firm's resolution strategy.
- **Defense against Legal Challenge**—Legal challenges to the provision of liquidity or capital support to subsidiaries before a parent company's bankruptcy filing may occur, and so we must implement defenses to these challenges.

- **Legal Entity Structure**—Our Key Operating Entities must be organized in a rational way that supports an orderly resolution, which includes having practical options for breaking up and shrinking the firm in a resolution scenario.
- **Cross-border Cooperation and Coordination**—A resolution plan must address the risk that foreign regulators or third parties could take actions in ways that could negatively affect the firm's ability to successfully execute its resolution strategy.

3. Operational Resilience

- **Operational Capabilities**—Operational capabilities—including experienced personnel and sufficient technology, capacity and other capabilities—must be able to deal with the surge in activity that would come in a time of crisis, so that Critical Operations, including the payment, clearing and settlement of financial transactions, can continue uninterrupted as the firm is resolved.
- **Derivatives and Trading Activities**—A resolution plan must address the risks raised by a large portfolio of derivatives and trading activities.

The subsections that follow discuss the many initiatives, both regulator- and self-identified, we have completed in each of these eight areas to ensure that our resolution plan would work in a real-world crisis situation.

Figure 8 summarizes a selection of our most important resolvability initiatives, which have prepared us to execute our Resolution Plan.

Figure 8. Key Reasons Demonstrating Our Preparation to Execute Our Resolution Plan



We have sufficient capital to successfully implement the strategy.

The maintenance of sufficient capital is one of the core indicators of the health of a financial institution like JPMorgan Chase. Capital represents the difference between a firm's assets and its liabilities. It should be thought of as a measure of a firm's potential to absorb losses. A firm's capital can be reduced or written down to absorb a decline in value of the firm's assets or an increase in liabilities. Regulators require that financial institutions maintain or exceed certain levels of capital, and counterparties are unwilling to transact with financial institutions that have insufficient capital.

For these reasons, the successful execution of our Single Point of Entry strategy depends upon our ability to maintain adequate capital levels at all of our Key Operating Entities throughout resolution. Several of our entities are subject to prudential capital requirements, and so our strategy is designed so that they meet or exceed all regulatory capital requirements for "well-capitalized" status under U.S. or other equivalent regulations throughout resolution. Key Operating Entities that are not subject to regulatory capital requirements, such as certain of our investment management entities, must maintain capital levels typically required to obtain an investment-grade credit rating or, if the entity is not rated, an equivalent level of financial soundness. During financial stress, our Key Operating Entities may incur certain types of losses which could impair their capital and thus erode their financial foundation. We have designed our strategy so that, in those instances, we are able to restore the entities' capital base to a level such that they can continue to operate throughout the resolution period.

This section describes the steps we have taken so that in resolution our firm would have sufficient capital resources to successfully execute our Single Point of Entry strategy and, more specifically, to recapitalize any Key Operating Entities that experience capital shortfalls. This section also discusses how we regularly monitor capital needs and resources at our Key Operating Entities in Business as Usual conditions and in times of financial stress, identify any projected capital shortfalls and promptly deploy capital resources to address those shortfalls.

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Our Resolution Plan Is Designed to Meet Real-World Challenges

Key Elements of Our Capital Preparedness

- Developed Resolution Capital Adequacy and Positioning (RCAP) and Resolution Capital Execution Need (RCEN) frameworks
- Prepositioned resolution capital resources for all Key Operating Entities
- Developed firmwide and entity-level capital monitoring triggers
- Enhanced firmwide and entity-level capital policies
- Integrated our capital management framework into our day-to-day processes, procedures and reporting

We estimate and monitor the resolution capital needs of each of our Key Operating Entities, and have conservatively placed capital resources at all of our Key Operating Entities to meet these estimated needs.

We have developed measurement capabilities and financial frameworks to enable us to calculate the total loss absorbing resources of our firm on a regular basis. Total loss absorbing resources refer to qualifying equity and long-term debt of our firm that can absorb losses in a resolution scenario. The Agencies refer to this kind of framework as Resolution Capital Adequacy and Positioning, or RCAP.

We have also developed measurement capabilities to project the capital resources that would be needed at each of our Key Operating Entities to implement our Single Point of Entry strategy, based on facts unfolding in the actual stress scenario being experienced. The Agencies refer to this kind of framework as Resolution Capital Execution Need, or RCEN.

Capital resources and capital needs are regularly projected for each Material Legal Entity. During Business as Usual, we regularly monitor that:

- our firm has total loss absorbing resources in excess of its consolidated resolution capital needs requirement; and
- each of our Key Operating Entities has prepositioned capital resources in excess of their individual resolution capital needs requirement.

Because a resolution scenario could arise under a variety of conditions, we designed our RCEN methodology to protect against potential uncertainty by:

- defining and prepositioning levels and estimates of capital resource needs for those of our Key Operating Entities that are either rated by credit rating agencies or subject to regulatory capital requirements as the higher of the well-capitalized regulatory level or the estimated minimum to maintain an investment-grade rating;
- defining market confidence and financial soundness standard for Key Operating Entities;
- conservatively estimating recapitalization levels for Key Operating Entities; and
- establishing central capital resources that can be downstreamed following the bankruptcy of our parent company.

Using these capital management processes, we have estimated the capital needed for each of our Key Operating Entities in a resolution scenario and maintain an appropriate balance of projected resolution capital resources at all Key Operating Entities. Resolution resources—capital or liquidity—held at one of our entities is called prepositioning. We also maintain at IHC a central buffer of additional financial resources that can be distributed to Key Operating Entities in resolution in the event prepositioned capital resources are not sufficient and a legal entity suffers a capital shortfall. We periodically reevaluate the level of prepositioning at Key Operating Entities against the level of resources held centrally at IHC, and adjust as appropriate.

Resolution Planning and Why JPMorgan Chase Is Resolvable

Our Resolution Plan Is Designed to Meet Real-World Challenges

We have enhanced our capital triggers that enable us to take resolution actions at the appropriate times.

The recapitalization of our Key Operating Entities and our parent company's bankruptcy filing must occur while our available capital and liquidity resources are sufficient to support our Key Operating Entities' needs in resolution. Other key actions must also be taken at the appropriate times and in the appropriate order to mitigate financial, operational, legal and regulatory vulnerabilities.

We have accordingly developed a full set of capital triggers that incorporate capital resources and capital needs projections for the firm on a consolidated basis, as well as for each Key Operating Entity. Since the 2017 Resolution Plan, we have updated this capital monitoring framework to include additional targets and triggers based on various regulatory requirements by U.S. banking regulators. These triggers link the capital position of JPMorgan Chase on a consolidated basis and individual Key Operating Entities to specific escalation and recovery- and resolution-related actions. We also have incorporated our capital triggers, together with a corresponding set of liquidity triggers, into our Support Agreement and Governance Playbooks to assure that the actions contemplated by our Single Point of Entry strategy are executed in a timely manner. These capital and liquidity triggers are challenged and monitored on a regular basis by our independent risk function.

We have updated our firmwide Contingency Capital Plan and capital management policies at Key Operating Entities.

Our Contingency Capital Plan specifies the principles underlying the firm's approach towards capital management and defines the framework used to calibrate internal minimum capital targets and post-stress internal minimums in accordance with specific goals. It is also used to monitor the firm's capital position through specific capital escalation points and to identify capital contingency actions available at each stage of stress. Capital management policies for each of our Key Operating Entities are developed in alignment with the Contingency Capital Plan and establish the internal requirements for Key Operating Entities to maintain prepositioned capital resources in excess of their anticipated resolution capital needs.

Our capital management framework is integrated into our Business as Usual monitoring and reporting processes.

We have embedded the calculation of capital requirements, resolution capital positioning and the needs and repositioning of capital resources into our day-to-day monitoring and reporting processes through:

- ongoing and regular calculation of firm- and entity-level capital ratios and the monitoring of those ratios against the capital monitoring triggers in the Contingency Capital Plan and capital management policies for the firm and our Key Operating Entities;
- ongoing and regular calculations and independent review of resolution capital positioning and needs at the firm- and legal entity-level, including the amount of prepositioned capital resources at each Key Operating Entity and the monitoring of the prepositioned amounts against the capital need; and
- annual approvals of the firmwide Contingency Capital Plan and capital management policies for individual Key Operating Entities.

We believe that our resolution capital positioning and needs frameworks, capital triggers, Contingency Capital Plan and capital management policies, and their integration into our Business as Usual monitoring and reporting processes, collectively help to ensure that we would have enough capital to execute our Single Point of Entry strategy successfully in a wide spectrum of potential loss scenarios.

Our liquidity is sufficient to implement our strategy successfully.

Like capital, liquidity is an important indicator of a financial institution's health and plays a critical role in resolution. Liquidity is a measure of how easy it is to convert assets into cash. Liquid assets are those that can be converted into cash relatively quickly and easily—such as sovereign debt, government securities and corporate debt securities—whereas illiquid assets are those that cannot be easily sold or exchanged for cash—such as shares of private companies or certain types of financial contracts. Insolvency can occur when an entity's liquidity is insufficient to meet obligations when they come due.

Each Key Operating Entity must maintain or have access to enough liquidity to meet its funding needs and remain solvent throughout resolution in order for us to successfully execute our Single Point of Entry Strategy. During financial stress, our Key Operating Entities are likely to suffer severe liquidity outflows due to things like increased deposit withdrawals, potential derivative collateral requirements, draws on loan commitments, heightened membership requirements from FMUs and counterparty and other stakeholder demands. Our Key Operating Entities must always have sufficient liquidity or liquidity must be readily available at IHC so that they can continue to meet their obligations when due, successfully satisfy any heightened financial requirements placed on them by counterparties and operate in the ordinary course.

This section describes steps we have taken so that our firm would have sufficient liquidity resources to successfully execute our Single Point of Entry strategy and, more specifically, to adequately fund any Key Operating Entities that experience any unexpected liquidity shortfalls. This section also discusses how we are able to monitor liquidity needs and resources regularly at our Key Operating Entities in Business as Usual conditions and in times of financial stress, identify any projected liquidity shortfalls and promptly deploy liquidity resources to address those shortfalls.

Key Elements of Our Liquidity Preparedness

- Comprehensive liquidity framework for all Key Operating Entities
- Developed Resolution Liquidity Adequacy and Positioning (RLAP) and Resolution Liquidity Execution Need (RLEN) frameworks
- Prepositioning of liquidity resources at Key Operating Entities, including the buffer at IHC
- Liquidity triggers and policies for all Key Operating Entities
- Simplified intercompany funding flows

We can estimate the liquidity needs of each Key Operating Entity in resolution, and have conservatively placed liquidity resources at all of our Key Operating Entities to meet these estimated needs.

We have developed capabilities and two financial frameworks for calculating liquidity resources and needs. The Agencies refer to these frameworks as Resolution Liquidity Adequacy and Positioning, or RLAP, and Resolution Liquidity Execution Need, or RLEN. RLAP is a framework for estimating and maintaining sufficient liquidity at, or readily available to, designated Key Operating Entities in resolution. Importantly, RLAP is used to decide how we position liquidity resources within our firm at specific entities during Business as Usual in anticipation of liquidity needs during a future Hypothetical Resolution Scenario. In contrast, RLEN is designed to produce projections of the actual needs of our Key Operating Entities after our parent company has filed for bankruptcy. More specifically, the calculation of resolution liquidity needs estimates the total liquidity needed, as calculated, to satisfy a Key Operating Entity's peak funding needs and minimum operating liquidity needed throughout a full implementation of our Single Point of Entry strategy, taking into account intercompany funding frictions, which are things like taxes, that could reduce or otherwise affect the amount or ability of funds to move among entities within the firm. In other words, this is the liquidity each of our Key Operating Entities needs to continue uninterrupted operation throughout Single Point of Entry, including, if applicable, to implement an orderly wind-down consistent with the Resolution Plan. Each of these two frameworks is discussed in greater detail below.

As a result of implementing these two liquidity frameworks, and in consideration of conservative assumptions such as ring-fencing, which is used to refer to the possibility that a foreign regulator requires one of our overseas operating entities to not make any of its excess funds available to affiliates, we have:

- significantly strengthened the consolidated liquidity position of the firm; and
- conservatively placed liquidity resources at each Key Operating Entity and IHC, which we believe are sufficient to fund each Key Operating Entity's needs in resolution with excess resources to cover

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potential uncertainties at either the Key Operating Entity or at a parent company.

Going forward, we will periodically reevaluate the level of prepositioning at Key Operating Entities against the level of resources held centrally at IHC, and adjust appropriately.

Resolution Liquidity Adequacy Positioning—RLAP

The baseline for our RLAP framework is our JPM Liquidity Stress Framework, which is designed to measure liquidity risk to ensure that our firm has sufficient liquidity resources to meet minimum operating liquidity and peak cash outflows. The JPM Liquidity Stress Framework assumes that a severe stress event results in our firm's issuer credit ratings being downgraded by all three major rating agencies to one notch below investment grade on the first day of stress. This leads to a severe liquidity crisis owing to a loss of wholesale and retail funding, additional collateral margin postings, customer and counterparty outflows, a rapid decline in the trading value of our debt and other market factors. The framework also assumes that the firm would suffer severe deposit attrition, draws on unfunded lending commitments, experience significant derivative outflows, and would be unable to refinance maturing wholesale funding obligations, except for secured funding or lending transactions backed by high-quality assets.

The JPM Liquidity Stress Framework includes a Restricted Liquidity Framework to take into account possible funding frictions, which assesses jurisdictional, operational, counterparty and tax frictions. The Restricted Liquidity Framework is used to identify liquidity that could potentially be trapped within several of our legal entities. We have created an enhanced Restricted Liquidity Framework to assess liquidity transfer restrictions at the entity level (including between branches) and to estimate intercompany frictions.

Our RLAP framework measures peak net funding outflows for each Key Operating Entity on a stand-alone basis, and details daily cash flows throughout the Stress Period, as well as a product-level breakout of third-party and intercompany flows. Intercompany transactions are treated similarly to third-party transactions, with no fungibility of surplus liquidity across Key Operating Entities (including branch-to-branch). It provides an estimate of the amount of liquid resources that would

need to be prepositioned at each Key Operating Entity and IHC to effectively meet the anticipated cumulative net peak funding outflows (inclusive of restricted liquidity). This reflects a conservative view of available sources of liquidity.

Resolution Liquidity Execution Needs—RLEN

Our RLEN framework uses the JPM Liquidity Stress Framework as the base, subject to certain additional, resolution-specific modifications.

The estimates used in this framework reflect the minimum liquidity required at each Key Operating Entity to execute our Single Point of Entry strategy throughout the Resolution Period, and so the framework informs the timing of when our parent company should file for bankruptcy. The minimum liquidity required at each Key Operating Entity is calculated as the sum of:

- the minimum operating liquidity required for the Key Operating Entity to operate without disruption throughout the Resolution Period; and
- the Key Operating Entity's projected peak cumulative net funding outflows.

RLEN identifies the peak cumulative net funding needed to stabilize each Key Operating Entity after our parent company files for bankruptcy. To be conservative, we do not assume access to unsecured funding markets in our RLEN framework.

As a result of our resolution liquidity framework, we are able to provide daily cash flow forecasts (consistent with the enhanced framework) through the end of the Stabilization Period.

The Restricted Liquidity Framework used in our RLAP and RLEN frameworks primarily applies to intercompany unsecured and secured transactions, commitments and derivatives, including transactions between Key Operating Entities and other entities, and all significant transactions. We implemented an additional third-party friction analysis to capture other funding frictions and size the required buffer at IHC to cover these amounts for each Key Operating Entity.

We have automated both of our resolution liquidity frameworks to ensure that we have daily reporting and analysis capabilities in resolution.

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Our liquidity triggers enable key actions to be taken at appropriate points in time.

In order to implement our Single Point of Entry strategy successfully, our parent company would need to file for bankruptcy while there are sufficient capital and liquidity resources to execute our resolution strategy. As such, we have established a full complement of corresponding liquidity triggers that incorporate projections of resolution liquidity positioning and needs for the firm on a consolidated basis, as well as for each Key Operating Entity. These liquidity triggers link the liquidity position of JPMorgan Chase and specific operating entities to specific escalation and recovery- and resolution-related actions. As with our capital triggers, we have incorporated these liquidity triggers into our Support Agreement and Governance Playbooks to help assure that the actions contemplated by our Single Point of Entry strategy are executed in a timely manner.

In addition to establishing triggers based on our frameworks for resolution liquidity positioning and needs, we also modified our formal Recovery Plan Activation Trigger so that recovery actions begin earlier than they would have under earlier recovery plans, in order to increase the likelihood that we never get to a resolution event.

Because having up-to-date information and projections are essential to acting effectively in a crisis, we have enhanced our reporting capabilities so that we can generate resolution-related information on a frequent basis. These reports contain data regarding resolution liquidity positioning, needs for the firm and for each Key Operating Entity, and are produced daily, monthly and quarterly.

We have minimized intercompany funding frictions.

In connection with improving our framework for resolution liquidity positioning to better take into account potential frictions, we have simplified material intercompany funding relationships and financial interconnectedness, thereby mitigating the potential risk of frictions. Frictions reflect potential impediments to intercompany transaction flows that result in trapped liquidity. Specifically, we:

- streamlined cross-border flows;
- reduced the number of intermediate entities through which certain intercompany funding travels, and thereby reduced total intercompany funding flows and the likelihood of frictions under stress; and
- eliminated a significant amount of overnight intercompany funding arrangements and extended the maturity of a meaningful amount of intercompany funding.

We believe that both of our resolution liquidity frameworks, liquidity triggers, liquidity policies and actions previously taken to simplify liquidity throughout our firm collectively help to ensure that we would have enough funding and liquidity to successfully execute our Single Point of Entry strategy in a wide spectrum of potential loss scenarios.

Key decision makers throughout the firm understand how to implement our Single Point of Entry strategy in a timely manner.

The success of any resolution plan hinges on the right decision makers meeting at the right times to make key decisions about how a firm will respond to its deteriorating financial condition. Without appropriate monitoring and reporting systems and governance mechanisms to recognize, escalate and appropriately address warning signs, a firm not only loses its opportunity to diagnose and remedy its financial distress, but also its ability to prepare for an orderly resolution. Firms need to be able to respond quickly and decisively to mitigate the risk and potential knock-on effects of their failure.

Key Elements of Our Resolution Governance

- Governance playbooks, which include our comprehensive firmwide trigger framework
- Capital and liquidity risk playbooks
- Crisis management playbooks
- A newly created Master Playbook, which coordinates the interplay of all our different playbooks
- Firmwide crisis management strategy

Our Governance Playbooks provide our boards and management with a governance framework and tool for decision-making in a possible resolution event.

One of the key components of our resolution plan is a series of actionable guides for our senior management and directors, which are referred to as Governance Playbooks. Our managers and directors worldwide must be prepared to recognize and respond to any financial distress that our firm may encounter.

Our Governance Playbooks describe the major decisions that the directors of our Key Operating Entities would need to make and actions that directors, together with senior management, would need to take to execute our resolution strategy. The Governance Playbooks also incorporate clearly defined firmwide capital and liquidity triggers—referred to as Stage Triggers—that define critical points all the way from Business as Usual through increasing levels of financial distress and, ultimately, the decision of whether our firm should file for bankruptcy. For each of these critical points, the Governance Playbook describes the specific actions that would need to be taken or decisions that would need to be made, the relevant decision makers and any information that must be provided in connection with these actions or decisions. In addition, we have developed a new Master Playbook that describes the interplay of all of our different resolution-related plans and playbooks and enumerates key actions to be taken and the decisions to be made through each stage of the resolution timeline.

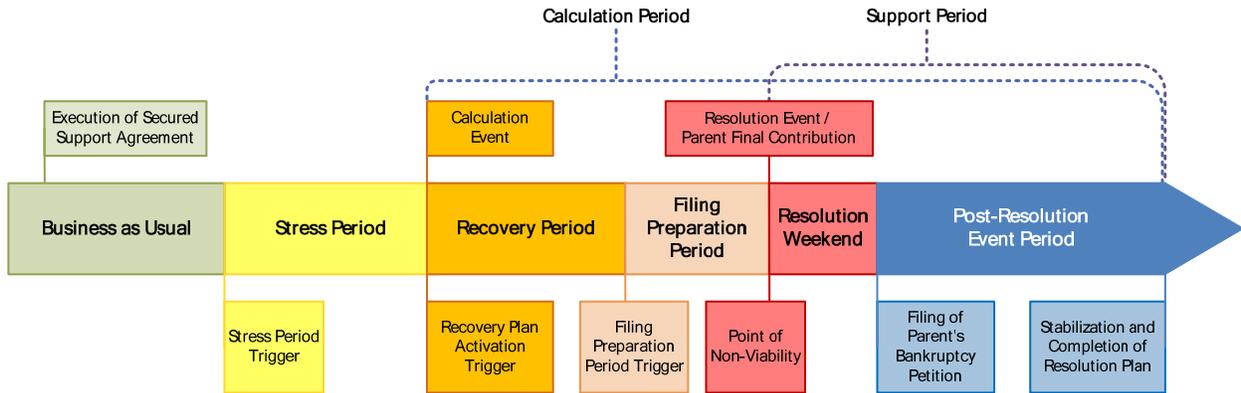
Our Stage Triggers define the points at which our firm would transition from one stage of stress/recovery and resolution to the next and the point at which our parent company would formally activate our recovery plan, along with the specific decision points and actions required at and within each of those junctures. The Stage Triggers also tie the financial condition of the firm to the provision of capital and liquidity support to our Key Operating Entities before our parent company files for bankruptcy and during our parent company's bankruptcy proceedings.

We have also developed a separate set of capital and liquidity triggers, referred to as Support Triggers, which are designed to ensure the timely recapitalization of and provision of liquidity support to Key Operating Entities starting at the Point of Non-Viability in order to support the success of our Single Point of Entry strategy. The connection between the Stage Triggers and the Support Triggers and the related support are formalized through the Support Agreement. Figure 9 shows the different stages of stress/recovery and resolution and the designated Stage Triggers, along with certain key actions based on the functioning of the Support Agreement.

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Figure 9. Stress/Recovery and Resolution Stage Triggers – When We Move from Stage to Stage



Certain of our Stage Triggers take into account the liquidity and capital needs of our firm on an aggregate basis. This enables the firm to maintain sufficient capital and liquidity resources to meet its projected capital and liquidity needs under the Single Point of Entry strategy. We have also designed stand-alone capital and liquidity triggers for certain Key Operating Entities. These entity-level triggers are calibrated to synchronize the escalation of information and execution of entity-specific recovery and resolution actions to the financial condition of that operating entity on a stand-alone basis (and not our firm as a whole).

We have embedded the Stage Triggers in the customized Governance Playbooks that we have developed for each of our Material Legal Entities. For each Stage Trigger, we have detailed the decisions that would have to be made and the necessary actions, as well as the associated responsible parties for each. As reflected throughout the Governance Playbooks, Board actions and decisions associated with each trigger will be based on recommendations from senior management and supported by an appropriate analysis and information about the circumstances.

We have established an integrated approach to recovery and resolution planning through our governance and Crisis Management Framework.

In addition to the Governance Playbooks, our Crisis Management Framework integrates recovery and resolution phasing in the following four important ways:

- We continue to test our capital and liquidity risk playbooks for Business as Usual and the Stress Period, as well as for our recovery and Resolution Plans.
- We have updated crisis management playbooks for each of our Key Operating Entities, lines of business and Critical Operations.
- We have formally integrated recovery and resolution preparedness and testing into our crisis management strategy.
- We have formally integrated resolution readiness and preparedness into our firmwide strategic principles.

Resolution planning is integrated into our day-to-day operations and decision-making, providing us with a meaningful defense against future financial crises.

We believe that, as a result of our Governance Playbooks, capital liquidity risk playbooks, crisis management playbooks and strategy and updated firmwide strategic principles, our management and directors firmwide understand our resolution plan and are fully prepared to implement our Single Point of Entry strategy in the event of the firm's financial distress.

Our strategy can withstand legal challenge.

A potential failure of JPMorgan Chase may give rise to a number of competing interests, some of which would not be aligned with certain elements of our Single Point of

Entry strategy. For example, creditors may seek to bring legal challenge to the provision of liquidity and/or capital support to Key Operating Entities contemplated in our strategy. Legal challenges risk delaying or even impeding implementation of key elements of our strategy.

Moreover, certain of our counterparties may find it in their self-interest to exercise early termination rights triggered by the failure of our parent company to close out their financial contracts with other entities in the firm, also referred to as cross-default rights. The exercise of cross-default rights with respect to financial contracts would reduce the liquidity resources available to execute our resolution strategy.

We have carefully analyzed the risks posed by these competing interests, and completed actions so that: (1) creditor challenges to capital and liquidity support contemplated under our resolution plan should be without merit; and (2) we would be able to qualify for a stay on cross-default rights and avoid counterparties closing out their financial contracts with our operating subsidiaries based on our parent company's bankruptcy.

Defenses Against Potential Legal Challenges to Our Strategy Include:

- Comprehensive analysis of potential legal challenges to pre-bankruptcy financial support to Key Operating Entities, and their mitigants
- Prefunded IHC to address unanticipated capital and funding needs in resolution
- A secured Support Agreement to ensure resources will be promptly and directly provided to the appropriate entities in resolution
- Bankruptcy Playbook that identifies necessary preparations for our parent company's bankruptcy filing under our resolution strategy, including how to satisfy conditions of the ISDA Protocols' stay on cross-default rights
- Drafts of legal documents that would be necessary in the event our parent company files for bankruptcy

We have conducted a detailed legal analysis of potential challenges to the capital and liquidity support contemplated under our strategy and their mitigants.

Our resolution plan contemplates the provision of capital and/or liquidity support to various Key Operating Entities both before and after our parent company's failure. The provision of liquidity or capital by a parent company to its subsidiaries before the parent company's bankruptcy filing might, however, be challenged in court. To ensure that this capital and liquidity support is provided as contemplated, we have prepared a legal analysis of potential state and bankruptcy law challenges to the planned provision of capital and liquidity support, and their mitigants. To avoid potential impediments to our resolution strategy based on Single Point of Entry, we implemented the two mitigants to potential challenges to the planned support that we considered the most effective:

- created a pre-funded holding company with no third-party debt—IHC; and
- executed a secured Support Agreement.

These two mitigants are discussed in greater detail below.

IHC is prefunded to hold a central buffer of capital and funding resources for resolution.

Our IHC is a wholly owned subsidiary of our parent company with no third-party debt. IHC holds almost all of our parent company's formerly direct subsidiaries (with the exception of JPMCB), as well as intercompany indebtedness owing to our parent company and most of our parent company's other assets. Our parent company will also generally transfer the net proceeds of future securities issuances to IHC. The liquid assets held by IHC form a central buffer that can be used to provide additional capital and/or liquidity support to our Key Operating Entities if the prepositioned resources of any are insufficient to meet its needs in a resolution scenario. Going forward, we will periodically reevaluate the level of resources held centrally at IHC against the level of prepositioning at Key Operating Entities, and adjust as appropriate.

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IHC addresses the risk of potential legal challenges to planned capital and liquidity support in the following ways:

- **Increases the Likelihood that Our Financial Resources Can Be Successfully Deployed to Key Operating Entities in Resolution.** Under our Single Point of Entry strategy, following our parent company's bankruptcy filing, IHC (as well as JPMCB) would be transferred to a newly created company outside of the bankruptcy estate which would be owned by a trust for the benefit of our parent company's creditors. This would allow IHC to continue providing support as needed throughout our parent company's resolution, preserving value for the benefit of our parent company's creditors.
- **Minimizes or Eliminates Number of Credible Legal Challenges to Support.** IHC is required to remain free of third-party debt. As a result, there would be few, if any, credible legal challenges to IHC's contributions of capital and/or liquidity support to Key Operating Entities because at the relevant time there should be no third-party creditors of IHC who could assert standing to challenge those contributions.

Our Support Agreement contractually obligates IHC to provide liquidity and capital support to Key Operating Entities.

Our Support Agreement aids in the value maintenance and orderly resolution of JPMorgan Chase. The purpose of the Support Agreement is two-fold: (1) to effect the initial and regular transfer of assets from our parent company to IHC (described above); and (2) to ensure that IHC (and JPMCB, to the extent applicable), provides liquidity and capital support to Key Operating Entities, particularly during a resolution scenario. We completed the initial transfer of parent company assets in 2016.

Under the Support Agreement, in ordinary conditions, IHC and JPMCB provide liquidity and capital support to our Key Operating Entities in accordance with our Business as Usual capital and liquidity policies, with IHC assuming the responsibility previously held by our parent

company. In the unlikely event that our parent company reaches a point of severe distress at which an imminent bankruptcy filing is expected:

- our parent company will be contractually obligated to make a final contribution to IHC of its remaining assets (with the exception of a holdback and certain excluded assets), referred to as the Parent Final Contribution; and
- IHC will be contractually obligated to provide the necessary support to any Key Operating Entity (including JPMCB and its subsidiaries, to the extent of their unmet needs) whose prepositioned resources are insufficient to meet its modeled near-term need for capital and liquidity in resolution. Support can be provided to a Key Operating Entity on multiple occasions as its near-term needs evolve over time. IHC's obligations are secured, such that breach of the Support Agreement would give rise to a secured claim based on an agreed-upon damages provision, which would at a minimum be equal to, and could potentially be in excess of, the secured support obligations; as such, breaching the Support Agreement would be detrimental to IHC.

Under the Support Agreement, IHC is obligated to support Key Operating Entities (including JPMCB and its subsidiaries, to the extent of their unmet needs). Both the Parent Final Contribution and IHC's obligation to provide support to Key Operating Entities are secured by liens on the assets available to be used for these purposes.

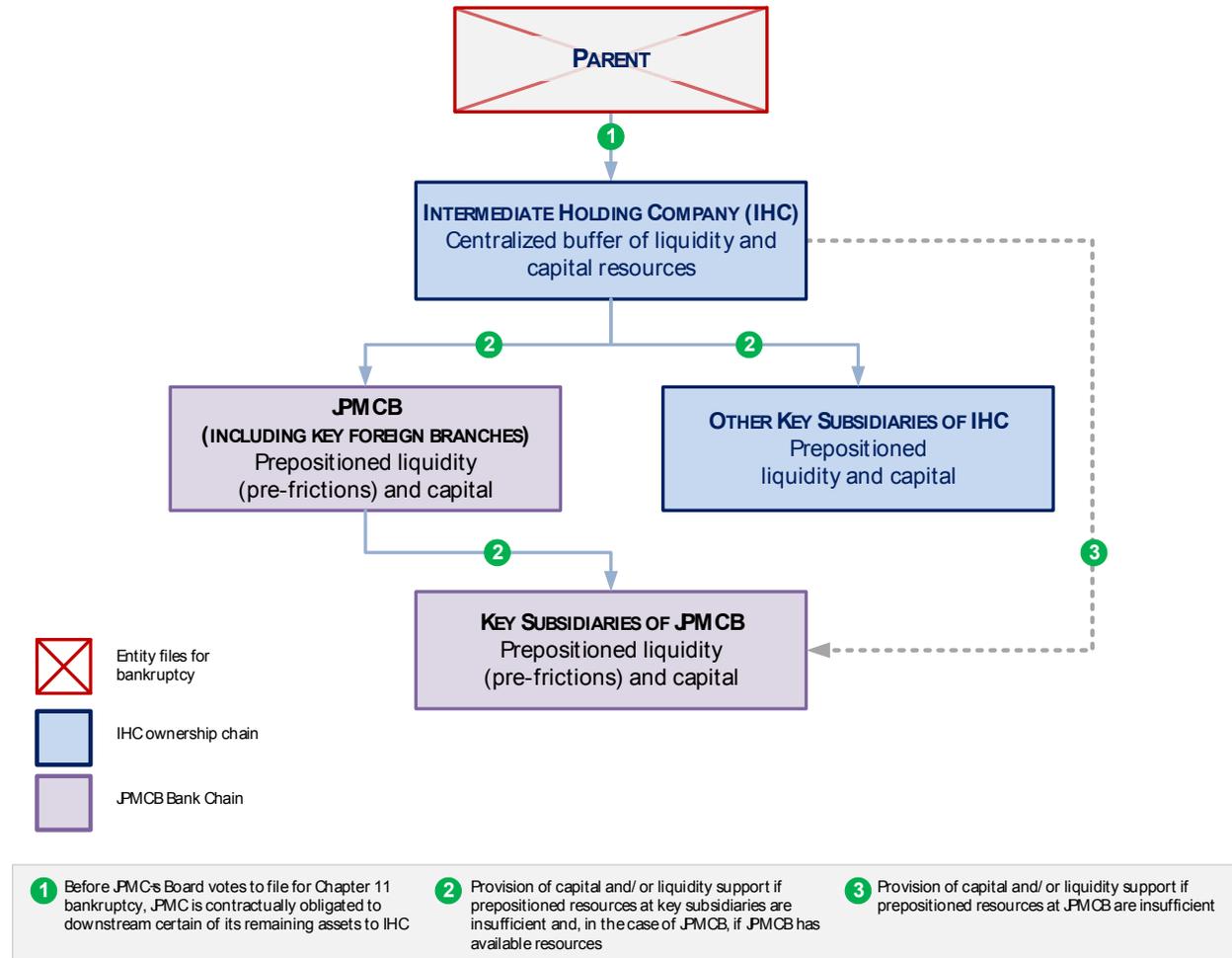
IHC will also provide our parent company with a revolving line of credit at all times before the point at which JPMC's bankruptcy filing is imminent. Among other things, this means that our parent company will have adequate resources to service its outstanding debt and make other distributions if the timing of dividends from JPMCB and IHC should for some reason not match the timing of these obligations.

Figure 10 describes how the Support Agreement will function at the beginning of the Point of Non-Viability.

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Figure 10. Flows Under the Support Agreement



We have concluded that potential creditor challenges would be without merit.

Taken together, we believe the establishment of the prefunded IHC, the execution of a Support Agreement and the current solvent condition of the firm form a defense of the capital and liquidity support contemplated under our Resolution Plan.

We created IHC and entered into the Support Agreement in 2016 when our firm was clearly solvent. Moreover, we took these actions to preserve the going-concern value of our Key Operating Entities even in the case of material distress, which benefits all relevant constituencies, including creditors. For these reasons, the types of potential creditor challenges that the Agencies identified

in their guidance should be rendered without merit and not hinder the implementation of our Preferred Strategy.

We have addressed potential legal issues associated with the ISDA Protocols' stay on cross-default rights.

The 2015 ISDA Universal Resolution Stay Protocol and the 2018 ISDA U.S. Resolution Stay Protocol, which we refer to collectively as the ISDA Protocols, are part of a series of initiatives promoted by U.S. and foreign regulators and the financial sector to contractually limit early termination rights with respect to certain common transactions that are Qualified Financial Contracts. These include agreements for derivatives, securities lending transactions and repurchase, or repo,

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transactions. Our Key Operating Entities that engage in derivatives and trading activities have adhered to both ISDA Protocols. Separately, the U.S. banking regulators adopted the Qualified Financial Contracts Stay Rules to facilitate the orderly reorganization or resolution of systemically important financial institutions like our firm. Entities covered by the rules must amend Qualified Financial Contracts to recognize the statutory stay-and-transfer powers of the FDIC and to override any cross-default rights based on an affiliate's entry into insolvency or resolution proceedings.

There are a number of potential legal issues associated with the satisfaction of the conditions of the ISDA Protocols. To address these potential legal issues, we produced detailed drafts of the bankruptcy documents that we would need in order to have a bankruptcy court take the necessary actions to satisfy the conditions under the ISDA Protocols to stay the exercise of cross-default rights of Qualified Financial Contracts against our Key Operating Entities if our parent company filed for bankruptcy.

In particular, we have prepared a proposed draft Emergency Transfer Motion and order, which could be filed immediately after our parent company files for bankruptcy and, if granted, would be used to transfer the interests of IHC to NewCo and the stock of JPMCB to IHC, and have NewCo assume the obligations of our parent company under the guarantees or other credit enhancements relating to the Qualified Financial Contracts. Our draft Emergency Transfer Motion and the Bankruptcy Playbook contain various arguments in support of the relief requested, including, among other things:

- the legal basis upon which NewCo would remain obligated for our parent company's credit enhancements consistent with the ISDA Protocols;
- the ability of the bankruptcy court to retain jurisdiction, issue injunctions and take other actions to prevent third-party interference with the execution of the Preferred Strategy; and
- the public policy reasons for the bankruptcy court to approve the relief sought.

Aside from these arguments, the Emergency Transfer Motion and the Bankruptcy Playbook also explicitly address potential due process arguments that may be

raised by objecting creditors based upon the timing of the requested relief.

In addition, we have developed a detailed Bankruptcy Playbook, which includes guides to the actions that our parent company should take in each of the six stages of stress/recovery and resolution, and for our compliance with the conditions of the ISDA Protocols' stay on cross-default rights. This guide sets forth, among other things, the steps by which we will seek the support of key domestic and foreign authorities for the Emergency Transfer Motion, and potential alternative strategies for satisfying the conditions under the ISDA Protocols in the event that the Emergency Transfer Motion is not granted. Further, the Bankruptcy Playbook includes a guide to finalizing the draft motions and other bankruptcy documents that we have already prepared and that would be filed at the outset of the bankruptcy case. This document completion guide is designed to assist our teams and counsel in rapidly and efficiently gathering and updating the information necessary to complete these key bankruptcy papers.

Our thorough analysis of potential legal issues in connection with our Resolution Plan, such as prefunded IHC, secured Support Agreement, our Bankruptcy Playbook and draft bankruptcy documents, further support our ability to be ready to commence bankruptcy proceedings and to satisfy the conditions of the ISDA Protocols' stay on cross-default rights to thereby avoid counterparties closing out their Qualified Financial Contracts with our operating companies based on our parent company's bankruptcy.

Our operations will continue uninterrupted in a crisis.

Our firm's operations and interconnections with affiliates and third parties are supported by structures and features (legal and otherwise) all intentionally designed to ensure their continuity and minimize the effects of failure should we ever need to use our Resolution Plan. Additionally, we have completed a number of initiatives to: (1) support our continued access to payment, clearing and settlement activities during resolution; (2) enhance our collateral management, identification and valuation capabilities; (3) strengthen our management information systems capabilities to readily produce the data that would be needed for the resolution of the firm; (4)

mitigate legal obstacles associated with key bankruptcy filings; and (5) determine whether the failure of a major counterparty might negatively impact our operations.

Key Elements of Our Operational Preparedness

- Resolution-resilient framework for provision of interaffiliate shared services
- Resolution-friendly termination and assignment provisions in all key vendor and material agent bank contracts
- Comprehensive strategies and sufficient resources to maintain or replace access to payment, clearing and settlement systems
- A full suite of communications playbooks to govern communications with clients, regulators, FMUs and agent banks during resolution
- Robust collateral management, identification and valuation capabilities
- Sophisticated management information systems that track financial resources and positions with high granularity, accuracy and reliability
- Comprehensive analysis of potential impact of counterparty liquidation

We have an actionable plan to ensure the continuity of Critical Shared Services during resolution.

As part of our resolution planning efforts, we have developed, and continuously strengthened, plans to ensure the continuity of the services that our operations rely on, particularly those that support our Critical Operations.

In order to do this, we conducted and regularly update a comprehensive evaluation of our operations and the shared services, which are services provided by our entities to each other, and outsourced services, which are services provided by third-party vendors, on which our Key Operating Entities rely. As a result of our evaluation, we have designated our Critical Operations and the essential, centrally managed shared services (e.g., intrafirm technology, legal, human resources) that support our Critical Operations, collectively as Critical Shared Services. We have further identified the underlying Critical Services that support our Critical Operations. With this taxonomy, we maintain a detailed mapping of all Critical Services that support Critical Operations and how and where these services support core business lines and Critical Operations. This mapping supports our understanding of the operational interconnectedness that is an important resolvability consideration.

In addition to describing our Critical Operations and the centrally managed shared services that support them, Critical Shared Services also includes the important intra-firm elements necessary to maintain our operational continuity (people, real estate, technology, etc.) on both a day-to-day basis, as well as throughout resolution. Our initiatives to strengthen operational resilience have focused on ensuring the continuity of our Critical Shared Services in resolution.

[Our internal initiatives aim to ensure that our affiliates will continue to receive and provide Critical Shared Services during resolution.](#)

We have structured the necessary Critical Shared Services, including shared technology, licenses and personnel relationships among our entities, such that, under our resolution strategy, each entity will be able to continue to provide and receive Critical Shared Services throughout resolution.

Concentration of Critical Shared Services in Certain Entities. Our Critical Shared Services are concentrated within the JPMCB Bank Chain and JPMSIPL, the firm's wholly owned service provider outside of the JPMCB Bank Chain that provides support services to the JPMCB Bank Chain and other affiliates. Because JPMCB owns most IP rights, technology assets and shared corporate services infrastructure of the firm, the recapitalization of and provision of liquidity to JPMCB under our resolution strategy facilitates the continuity of these Critical Shared

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Services. JPMSIPL has been structured to remain fully funded during the firm's financial distress and is therefore expected to continue operations without significant disruption in a resolution scenario. For those Critical Shared Services that must be provided by broker-dealer entities we have concentrated them in the U.S. broker-dealer, JPMS LLC. This concentration of Critical Shared Services in entities that comprise the surviving firm that emerges from our resolution strategy significantly reduces any possible disruption to the provision of Critical Services and maintenance of Critical Operations.

Formal Framework for Provision of Intercompany Services in Resolution. Intercompany relationships within our firm are documented on formal arm's-length terms through various agreements, and payments for services under these agreements are made under a firmwide expense allocation process. As a result, there will be an established framework under which entities within our firm and former affiliates of the firm can continue to engage in intercompany transactions and receive and pay for intercompany services. Importantly, the agreements contain resolution-friendly terms designed so that any entities that are wound down under our resolution strategy will continue to receive services from their affiliates under existing service agreements, so long as those entities continue to meet their obligations, including payment.

Retention Strategies for Key Employees to Implement Our Resolution Strategy. The success of our resolution strategy and our ability to continue Critical Operations and Critical Services on an uninterrupted basis throughout resolution relies in part upon the retention of key employees during an actual resolution event. To that end, we maintain and regularly update a list of key employees for resolution planning purposes. We have also established an employee retention framework that would be applied in a resolution scenario to encourage key employees to remain with the firm.

[We have contract terms so that key vendor and material agent bank contracts are not terminable upon the bankruptcy of our parent company and would be assignable.](#)

We analyzed all of the material outsourced services that support our Critical Operations and designated certain third-party agreements as critical to our firm as a whole or to specific lines of business. We then reviewed these designated critical third-party agreements to determine

whether there are any that could be terminated by the provider solely because of our parent company's bankruptcy filing, *even if* the operating entity actually receiving the services continues to perform—and, most importantly, pay for services—under the agreement.

Based on this review, we have amended existing vendor contracts for material outsourced services to include resolution-friendly termination and assignability terms, regardless of whether the outsourced services could be substituted or not. The resolution-friendly terms remove the provider's right to terminate based solely on our parent company's entry into bankruptcy proceedings, and the resolution-friendly assignability terms permit us to assign the agreements to potential buyers in a divestiture.

We also updated our master vendor contract for third-party service providers to include resolution-friendly termination and change-of-control clauses. We have instituted formal controls so that new contracts may not be executed unless the required resolution- and divestiture friendly language has been included.

We undertook similar identification, review and amendment efforts to our contractual arrangements with agent banks and subcustodians, which provide us payment, clearing and settlement services in various markets. We proactively amended all of our agent bank contracts (regardless of materiality) to incorporate resolution-friendly terms. We also updated our standard agent bank and subcustodian contract language to include resolution-friendly termination and assignability provisions, and established formal procedures to require that this language is included in those agreements going forward.

[We have made significant strides to maintain payment, clearing and settlement activities during periods of financial distress.](#)

Payment, clearing and settlement activities are some of the most important services that financial institutions both provide and rely upon. Payment activities include the processing of wholesale and retail funds transfers. Clearing and settlement activities include transmission, reconciliation, confirmation and the actual transfer of ownership of stocks, bonds and other securities and the related payments, which reduce the risk that parties may default on their transactions. Together, these

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services facilitate the day-to-day, smooth functioning of the economy. We have addressed the risks that a resolution scenario may pose to our ability to continue providing payment, clearing and settlement activities to others, and to our access to these services ourselves.

We have developed a service provider framework that establishes three categories of services where JPM Group is a provider of payments, custody, and clearing and settlement. Building on this framework, we developed a methodology for the identification of key clients using quantitative and qualitative criteria and an approach for mapping key clients against key FMUs and agent banks, as set out by the Final Guidance. We have also developed playbooks for instances where we are a provider of payment, clearing and settlement services and updated our existing analyses and playbooks for continued access to these services and key FMUs and agent banks.

Because FMUs are multilateral systems that provide the infrastructure for conducting payment, clearing and settlement activities among financial institutions, uninterrupted and dependable access to FMUs at all times is vitally important to a financial institution's ability to function on a day-to-day basis. Access to FMUs is especially critical during a firm's financial distress or resolution. Financial institutions and FMUs have competing incentives, however, in the event of a financial institution's financial distress. The financial institution wants to continue transacting through the FMU to minimize the effects of its financial distress on its customers, counterparties and the financial system as a whole. The FMU, however, wants assurances that the FMU participant will not default on its obligations or otherwise introduce risks that could weaken the financial condition of the FMU or other FMU participants. As a result, FMUs typically reserve the right to, among other things:

- terminate a financial institution's participation at the FMU under a broad range of circumstances, including the financial distress of the participating entity itself, or of the entity's parent or affiliate;
- impose additional financial requirements so that the participating entity, for example, has to partially or fully prefund its transactions; and/or
- impose additional reporting and information requirements.

We have made significant strides over the last years to mitigate the obstacles to orderly resolution raised by these competing incentives and to support our continued FMU access during a potential resolution scenario.

We continue to participate in financial sector efforts to analyze the discretion that key FMUs have under their rules to increase, modify or supplement their Business as Usual requirements in response to a financial institution's financial distress. Based on this analysis, we created and built upon numerous playbooks and documents that describe the nature of these key FMUs' heightened requirements and our capacity to respond to those requirements, and support our ability to maintain uninterrupted access to FMUs during financial stress and resolution. We maintain alternative strategies—backup methods for accessing payment, clearing and settlement services—for each of the FMUs and agent banks that we use worldwide. We regularly update payment, clearing and settlement details for our Key Operating Entities, lines of business, sub-lines of business and Critical Operations.

We have enhanced our communications with wholesale clients to provide them with transparency into the potential impacts from our implementation of contingency arrangements for payment, clearing and settlement activities during a resolution event. We have also expanded our communication plans to include and describe the methodology for how we will communicate potential impacts to key clients in a resolution event.

We have robust capabilities to manage, identify and value collateral that we receive from and post to external parties and affiliates.

We receive collateral from and provide collateral to counterparties in connection with our payment, clearing, settlement and other activities. Our firmwide collateral policy sets out high-level principles governing collateral and applies to all of our collateral pools. The firmwide collateral policy contains guidelines on the type of collateral that is considered acceptable, including considerations on where the collateral is held and pledged.

We have established strong processes for managing, identifying and valuing collateral on a material entity-basis that satisfy, and in some cases exceed, the collateral capabilities requirements set out by the Final

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Guidance. Specifically, we have the ability on a daily basis to:

- identify the legal entity and geographic distribution where counterparty collateral is held;
- document all netting and rehypothecation arrangements with affiliates and external legal parties;
- track and manage collateral requirements associated with counterparty credit risk exposures between affiliates, including foreign branches; and
- estimate the liquidity impact of collateral arrangements for the firm and certain Key Operating Entities under various stress scenarios.

During the ordinary course of business and on at least a quarterly basis, we also:

- review material ISDA and credit support annex terms and provisions for ratings-based, client downgrade and other triggers that may be breached as a result of changes in market conditions, and call additional collateral from counterparties, as required; and
- identify legal and operational differences and potential challenges in managing collateral within specific jurisdictions, agreement types, counterparty types, collateral forms and other distinguishing characteristics.

To ensure that these collateral processes will remain effective in a crisis, we have conducted a comprehensive analysis of how we would manage collateral processes in resolution at each Key Operating Entity that either pledges or holds third-party collateral and the related valuation processes. Based on this analysis, we self-identified and executed many initiatives to further strengthen our collateral management capabilities and maintain their resilience during resolution. We are also designing and implementing an operating model and infrastructure for firm-wide collateral management. We are confident that these capabilities will enable us to more promptly and accurately address changing market conditions and demands from counterparties that would be likely to occur during a resolution scenario.

We have management information systems to readily produce data on a legal entity basis, and controls for data integrity and reliability.

Our ability to recognize when and understand why our firm experiences financial distress and to react to this distress in a prompt and appropriate manner hinges on our capability to produce accurate and reliable data on a timely basis at the right levels of our organization. Management information systems are the systems by which we produce, monitor and track critical data about our firm on a day-to-day basis and during a crisis. We take our management information systems capabilities very seriously and, as such, starting on day one of our resolution planning, dedicated resources to enhancing our management information systems capabilities.

Since our initial Resolution Plan, we have had in place and continue to refine robust management information systems to readily produce data at the level of our designated Key Operating Entities, including controls for data integrity and reliability. We have also conducted a detailed analysis of the specific types of financial, treasury, risk and other data that would be required to execute our resolution strategy and the frequency this information would need to be produced. In each Resolution Plan, we include a comprehensive list of information required to execute our resolution strategy. We believe that these management information system-related initiatives enable us to timely produce the data we need, and at the correct level of granularity, to successfully execute our resolution strategy.

We can withstand the liquidation of a major counterparty.

Effective resolution planning requires us not only to prepare for our potential financial distress and orderly resolution, but also to consider the effects of the potential failure of a major counterparty on us. To this end, we have analyzed the extent to which the liquidation of a major counterparty might negatively impact JPMorgan Chase's operations. We have reviewed our interdependencies, interconnections and relationships with each of the 20 counterparties with which we have the largest aggregate exposure (financial and operating), and have determined that the failure of no single counterparty would cause material distress or failure of JPMorgan Chase. Our analysis assumes that each counterparty defaults under circumstances where the

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overall market would be stressed but functioning, except for the defaulting counterparty. In making this determination, we also took the conservative approach of assuming that the default would occur quickly (i.e., over a matter of weeks, not months), which would give us less time to take defensive actions, and considering only the downside risks.

We believe that, as a result of these firmwide initiatives to strengthen the resilience of our operational capabilities, we will be able to maintain our shared and outsourced services and payment, clearing and settlement activities on an uninterrupted basis during resolution. Further, as a result of these initiatives, we are equipped with collateral and management information systems capabilities designed so that we will be able to respond quickly and effectively to our firm's financial distress and nimbly adjust our actions during an actual resolution scenario in response to our firm's financial condition.

Our top-tier holding company structure supports resolvability and complies with the clean holding company requirements.

Under the Agencies' "clean holding company requirements," our parent company is required to avoid entering into certain financial arrangements that could impede the orderly resolution of the firm. Specifically, our parent company is prohibited from:

- issuing any short-term debt (i.e., debt with an original maturity of less than one year) to third parties;
- entering into Qualified Financial Contracts with third parties; and
- having liabilities that are guaranteed by its subsidiaries or subject to contractual offset rights for its subsidiaries' creditors.

The changes that we have made to our parent company's activities allow us to maintain our firm's resiliency and reduce complexity and reliance on short-term funding, thus supporting our ability to orderly resolve the firm in a resolution scenario.

We have simplified our structure to support our strategy.

We understand the importance and necessity of simplifying or rationalizing our legal entity structure to support an orderly resolution. To do this, we have developed and implemented detailed and actionable legal entity rationalization criteria, or LER Criteria, to guide our day-to-day decision-making with respect to our structure. We tested our existing legal entity structure against these LER Criteria, assessing whether each legal entity should be maintained or eliminated. And as a result, we eliminated many legal entities from our structure, including entities large and small.

In May 2019, we merged our credit card bank, CUSA, into our lead bank, JPMCB, resulting in only one IDI that is a Material Legal Entity and eliminating significant operational and financial interconnectedness. As part of that merger, we also eliminated another Material Legal Entity that was a CUSA subsidiary. The Credit Card business is now operated out of JPMCB.

In addition, we analyzed the required changes to our organizational structure in order to prepare for the expected departure of the U.K. from the European Union, or Brexit. In January 2019, we merged JPMIB, an existing Material Legal Entity, into JPMBL, a newly in-scope Material Legal Entity as part of the firm's Brexit strategy.

Our less-complex legal entity structure supports our resolution plan by reducing the overall number of entities that will require focus and resources at a time of failure. Simplifying interconnections between entities also simplifies and reduces the actions that would have to be taken to preserve Critical Services during resolution. Thus, we believe that our legal entity structure sustains our ability to effectively execute our resolution plan and greatly improves our resolvability under a variety of conditions and scenarios.

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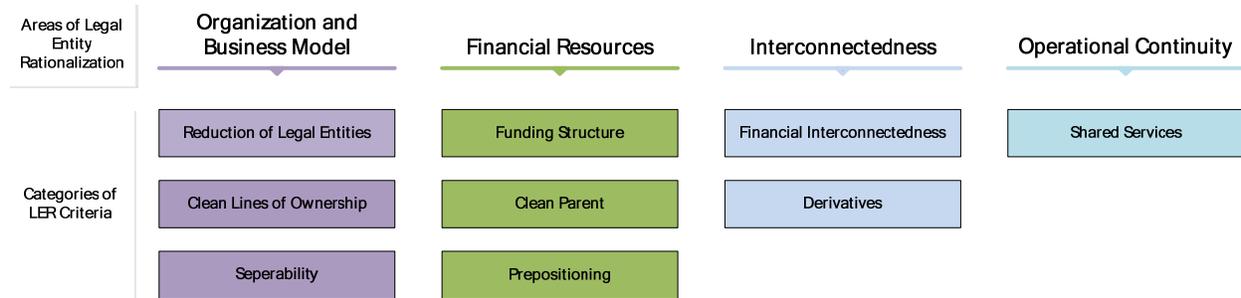
Initiatives to Make Our Legal Structure More Resolvable

- Identified 29 criteria for simplifying or rationalizing our legal entity structure
- Assessed and adjusted our existing legal structure, and interconnections between legal entities, based on the criteria
- Integrated our criteria into our global day-to-day policies, procedures and governance
- Reduced our U.S. depository institution count through the merger of CUSA into JPMCB.

We have clear and actionable criteria to achieve and maintain a resolvable legal structure.

We maintain specific LER Criteria to promote the alignment of our legal entities and businesses in a way that promotes our resolvability and, more specifically, the successful implementation of our Single Point of Entry strategy. We approach legal entity rationalization through four perspectives—(1) organization and business model, (2) financial resources, (3) interconnectedness and (4) operational continuity—and have developed categories of LER Criteria for each. Figure 11 summarizes our LER Criteria categories.

Figure 11. LER Criteria – Our Areas of Focus



To ensure that our improved LER Criteria are more than just a list, and are applied and adhered to across JPMorgan Chase, we have embedded and operationalized the enhanced LER Criteria in our Business as Usual decision-making process and created a governance process and framework to establish and monitor ongoing adherence to the LER Criteria. The governance framework provides for regular annual reviews and change-driven reviews.

The enhanced LER Criteria and the legal entity rationalization governance framework have been implemented through changes to the relevant policies and procedures and the related processes.

As part of the governance process, we have developed an evaluation and escalation process that is used in instances such as when an assessable entity does not meet certain LER Criteria and the issue needs to be escalated to determine what further actions are needed.

In addition, we specifically enhanced our LER Criteria to facilitate the recapitalization of our Key Operating Entities. The prepositioning category of LER Criteria requires our firm to maintain for Key Operating Entities predefined funding and recapitalization plans that are not impeded by the ownership structure. More broadly, several of the LER Criteria addressing financial resources are intended to facilitate the recapitalization of Key Operating Entities because they are designed to provide for a clean parent and funding structure.

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We believe that, as a result of these actions, our LER Criteria are clear, actionable and promote the successful implementation of our resolution plan and, more specifically, our Single Point of Entry strategy.

We have assessed all of our legal entities based on the LER Criteria, confirmed that our current structure is resolvable and identified opportunities for further structural enhancement.

We completed a full assessment of our existing legal entity structure against the LER Criteria. This assessment was conducted for all of our entities, including our Key Operating Entities. We set in motion certain structural, process and governance changes that will simplify our entities and support recapitalization. Specifically, we reduced, through mergers and other actions, our number of Material Legal Entities from 30 to 24, or a 20% reduction, from January 2017 to July 2019.

We believe this assessment of our legal entity structure and resulting decisions to eliminate entities and simplify interconnections have simplified our legal entity structure.

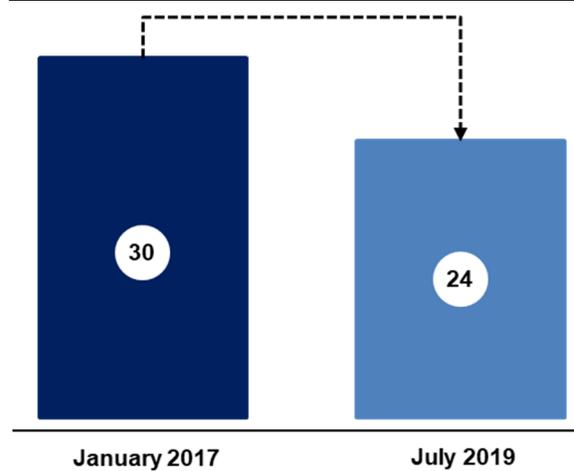
We have embedded our LER Criteria into our day-to-day decision-making.

All new legal entities created and all proposed eliminations of legal entities are assessed against the LER Criteria.

Our legal entity rationalization efforts have resulted in a simpler, more resolvable firm, as illustrated in Figure 12.

We believe our efforts to embed legal entity resolvability considerations in our day-to-day decision-making, together with the other legal entity rationalization actions described above, have made our firm more resolvable.

Figure 12. Reduction in Material Legal Entities



We have optionality in how our firm could execute divestitures in resolution.

We have developed a number of actionable options for breaking up our firm in resolution. We have designated components of our business as Objects of Sale, which are combinations of lines of business, sub-lines of business and assets that are the most attractive sale, spin-off or IPO candidates, irrespective of our current structure. The Objects of Sale represent a wide range of businesses and geographies and, as a result, provide us with additional optionality and flexibility in a recovery or resolution event. We have carefully analyzed our Objects of Sale, including potential obstacles to their divestiture, and identified mitigants so that we are prepared to divest each Object of Sale, even in a crisis.

Optionality and Divestiture Readiness

- 21 Objects of Sale
- 5 Objects of Unwind
- Pre-identified potential acquirers
- Multiple divestiture approaches
- Framework for selecting the appropriate divestiture approach during an actual recovery or resolution event
- Divestiture Playbooks and electronic data rooms that can be populated and made readily available in a timely manner with information relevant to a potential acquirer
- Changes to our current legal structure and day-to-day operations

We have designated components of our business that can be sold or otherwise divested to shrink our firm in resolution.

We generally think of our businesses in terms of three levels of granularity. At the top are four operating lines of business—Asset & Wealth Management, Commercial Banking, Consumer & Community Banking and Corporate & Investment Bank—which, at the next level, break down into 20 sub-lines of business, as shown in Figure 13. The third level consists of portfolios and assets that extend across our businesses. We believe that this three-level approach to categorizing our businesses makes sense for purposes of managing our day-to-day operations, but recognize that it may not be the right fit for purposes of determining how to divide and divest our businesses in a crisis situation. For example, while we believe that all of our businesses are highly attractive, there may be fewer potential purchasers during a resolution scenario for an entire line of business than a sub-line of business or a combination of complementary portfolios and assets.

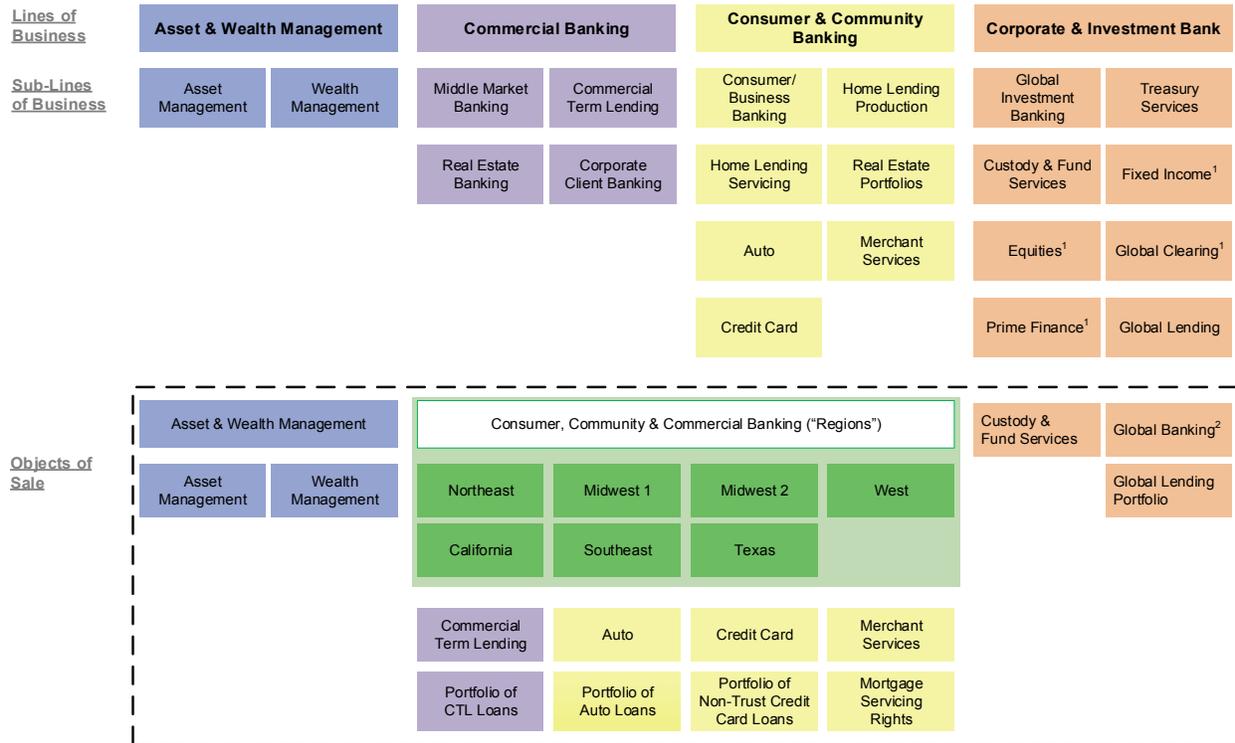
To ensure that our divestiture strategy preserves optionality and flexibility in resolution, we commissioned an expert analysis to objectively identify the best approach to breaking up these various lines of business, sub-lines of business and portfolios and assets in resolution into the most attractive sale, spin-off or IPO candidates, irrespective of our current structure. Based on this analysis and continued refinements, we have designated 21 components of our business as Objects of Sale, consisting of combinations of lines of business, sub-lines of business and assets.

The Objects of Sale relative to our existing lines of business and sub-lines of business are shown in Figure 13. The green boxes are a combination of Commercial Banking and Consumer & Community Banking businesses in the respective regions. Certain businesses, including the Fixed Income, Equities, Prime Finance and Global Clearing businesses, which include our firm's derivatives book and certain Critical Operations, are not included in an Object of Sale, but rather an Object of Unwind because they would be largely wound down. The Fixed Income, Equities, Prime Finance and Global Clearing businesses would continue to operate as they are orderly wound down, so as to minimize the impact on clients and the market.

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Figure 13. Objects of Sale



¹ Equities, Fixed Income, Global Clearing and Prime Finance are not identified as Objects of Sale as they would be expected to be wound down over time in a resolution event.

² Includes Global Investment Banking, Treasury Services and Global Lending Portfolio.

We have identified potential acquirers for, and multiple approaches to divest, these components of our business.

We have identified potential acquirers for each Object of Sale and considered multiple approaches to divesting the Objects of Sale, such as an IPO or sale, in order to support and sustain our divestiture strategies.

We screened an expansive universe of potential acquirers based in the United States and internationally, including large international banks, foreign banks, regional banks, asset managers and card processors. The suitability of these potential acquirers was evaluated across multiple dimensions, including scale, strategic fit, business fit, financial fit and regulatory considerations. We also constructed detailed case examples for a range of potential acquirers, which

provide a specific rationale for the acquisition, including potential synergies.

Many of our Objects of Sale are candidates for being acquired by a third-party buyer and some are candidates for IPO or spin-off. Where both a sale and an IPO or spin-off are feasible, a dual-track process would be employed, in which both options are pursued until a critical decision point. Considerations for pursuing a sale and/or an IPO or spin-off are discussed in detail in each of the Divestiture Playbooks. The potential for a spin-off provides additional optionality when market conditions or other external factors are challenging.

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We are prepared to quickly divest each one of these Objects of Sale.

In addition to improving optionality by identifying Objects of Sale and multiple potential acquirers and divestiture strategies for each, we have completed other initiatives to strengthen our divestiture readiness under a wide variety of scenarios.

Framework for Determining Divestiture Approach.

We have developed a framework that would help us choose an approach to divestiture in a crisis, including during a recovery or resolution event. This framework takes into account the nature of the crisis and market conditions so that an Object of Sale would be divested in a way that is both timely and orderly and preserves the value of the business component being sold.

Divestiture Playbooks. We have leveraged the knowledge of internal business stakeholders and subject-matter experts to develop tailored Divestiture Playbooks that collectively provide a tangible, comprehensive roadmap to divest the Objects of Sale. The Divestiture Playbooks provide a detailed road map to divest each Object of Sale, including: (1) an overview and valuation of the Object of Sale under different market conditions, including an estimate of the capital and liquidity impact of the divestiture; (2) a detailed discussion of the Object of Sale's marketability; (3) potential obstacles to separation and mitigants that would be pursued in divestiture; and (4) realistic execution time frames and descriptions of required actions to execute the sale or IPO/spin-off of the Object of Sale.

Data Rooms. Consistent with the Final Guidance, our data room process ensures we have the capability to populate in a timely manner and make available electronic data rooms with information pertinent to a potential divestiture. The information will significantly accelerate typical divestiture timelines because it can be used in due diligence, marketing and underwriting in connection with a sale or IPO.

Structural and Business Changes. Based on an assessment of the legal entity structures for three of our sub-lines of business, we made changes to our current legal structure and day-to-day operations. More specifically, we moved legal entities in ownership chains and transferred certain clients and business activities to

other entities or branches in order to make us more divestiture-ready.

As a result of these initiatives, if a recovery or resolution scenario occurs, we will be able to quickly and efficiently (1) determine the most appropriate Objects of Sale, (2) determine the best divestiture strategies for those Objects of Sale, given the specific conditions at the time and (3) execute those divestiture strategies. We have executed upon a number of divestitures since the financial crisis, while continuing to strategically acquire businesses. The experience of undertaking these transactions continually refines our capability to value and divest our Objects of Sales in a variety of situations including a Resolution Event. We believe that these initiatives, together with the other actions to improve divestiture readiness described above, support the successful execution of our resolution strategy under a wide range of failure scenarios and different market conditions and thereby enhance our flexibility and optionality in resolution.

We have mitigated challenges to resolution posed by our derivatives portfolio and prime brokerage activities.

Certain contractual terms contained in financial contracts, such as derivatives, can pose a material impediment to the orderly and rapid resolution of major financial institutions. These problematic contractual terms include:

- early termination rights, which give a party to a financial contract the right to terminate the agreement upon the insolvency, bankruptcy or resolution of:
 - its direct counterparty (i.e. direct default rights); or
 - the parent company or an affiliate of its direct counterparty, even when the direct counterparty continues to perform on the contract (i.e. cross-default rights); and
- other rights, under which a party to a financial contract has the right to take actions based on the financial condition of the counterparty, or, in some cases, also the financial condition of the counterparty's parent or affiliate, such as the right to:
 - demand certain payments or deliveries under the contract ahead of the normal schedule;

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- demand more collateral/margin that must be provided; or
- modify the obligations of a party under the contract.

The widespread exercise of these rights against an ailing financial institution—especially a major dealer firm, where these rights can impact tens of thousands of positions representing billions of dollars—can cause substantial operational challenges for the financial institution, as well as increase the risk of systemic market disruption and financial instability in the United States. We recognize that managing the risk of counterparties exercising these rights would be a significant element of any orderly resolution of our firm.

To this end, we strengthened our derivatives framework and developed a plan to de-risk our derivatives in order to fully respond to the Final Guidance and to enable us to execute our wind-down strategy in resolution. For our derivatives booking practices, we have reviewed our booking model documentation, control and oversight policies and processes, as well as reviewed our existing reporting capabilities, allowing us to develop standard content for reporting and a framework to assess the significance of derivatives. We also maintain robust derivatives and trading capabilities to track and monitor risks associated with our derivatives trading, including on a legal entity basis.

In order to stabilize and de-risk our derivatives portfolio wind-down strategy, we have also improved our existing systems capabilities for segmentation and exit costs, developed an initial approach to an automated analysis of ease of exit, increased the granularity of operational costs and applied sensitivity analysis to assumptions affecting derivatives-related costs and liquidity flows. In keeping with the Agencies' guidance, we have extended the time horizon for our derivatives wind-down to 24 months and assumed for our resolution planning purposes that the 2018 ISDA U.S. Resolution Stay Protocol is in effect for all counterparties. In addition, we continue to invest in our risk management capabilities, further strengthening our legal entity risk management capabilities by developing a more centralized and automated source of third-party and interaffiliate market risk data.

We have further enhanced our account transfer client framework with additional segmentation criteria in order to influence speed and ease of transfer to alternate prime brokers. These and other capabilities help to ensure that we have the operational capacity to transfer prime brokerage accounts to other prime brokers in a timely and orderly fashion during financial stress.

Enhancing the Resolvability of Our Derivatives and Prime Brokerage Activities

- Resolution strategy designed to reduce early termination rights
- Adherence to ISDA Protocols and Jurisdictional Modular Protocol
- Comprehensive active wind-down analysis, and analysis of remaining portfolio
- Risk tracking and monitoring capabilities
- Operational capacity to transfer prime brokerage accounts

We have dramatically reduced the risk that our counterparties would exercise their early termination rights against us in a resolution scenario.

As an initial matter, our resolution strategy by design reduces the existence of early termination rights and, thus, reduces the risk of early termination closeouts of financial contracts, because, under the strategy only one entity—our parent company—enters bankruptcy proceedings. Under our resolution strategy, at the same time as it files for bankruptcy, our parent company would also file a motion to transfer all of the interests in IHC to NewCo and all of the common stock of JPMCB to IHC. (IHC would be owned by the Trust solely for the benefit of our parent company's creditors).

To mitigate the risk that our parent company's bankruptcy proceedings will trigger a cross-default under the firm's ISDA Master Agreements, we have:

- ceased all derivatives activities between our parent company and any non-affiliates;

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- because there are no common derivatives counterparties to both our parent company and JPMCB, there is no risk that our parent company's entry into bankruptcy proceedings would trigger the application of the Default Under Specified Transaction provision in JPMCB's ISDA Master Agreements as a direct result of the institution of those proceedings;
- committed to having our parent company enter into new derivatives primarily with our main bank, JPMCB;
- terminated a number of inactive master financial contracts that included cross-default rights; and
- adhered to the ISDA Protocols and related jurisdictional modules, in order to protect our Key Operating Entities from a closeout of their derivatives contracts and other Qualified Financial Contracts covered by these protocols following the bankruptcy of JPMC.

We believe that that these actions, taken together, have mitigated the risk that counterparty closeouts could occur in volumes large enough to undermine our rapid and orderly resolution.

We are financially and operationally prepared to conduct an orderly active wind-down of our derivatives and trading portfolio.

We developed and analyzed a scenario in which our subsidiaries engaged in derivatives and trading activities pursue an active wind-down of these activities and exposures in order to estimate the financial and operational resources we would need to do so.

For purposes of these estimates, we assumed that we would actively wind-down nearly all or 97% of significant derivatives activities and positions over a period of 24 months after our parent company enters bankruptcy proceedings. A small residual of positions that may take more time and effort to exit would remain, but we concluded that these would not be systemically important, and would be largely composed of longer-dated interest rate swaps and options.

We included the active unwind analysis in our resolution strategy and incorporated the estimated liquidity and capital impacts on specific entities into our resolution

liquidity and capital frameworks. By doing so, we demonstrated that we have the financial resources to fully absorb the costs of an active wind-down in resolution.

We can timely monitor the risks associated with our derivatives trading portfolio.

We maintain capabilities to track, monitor and manage risk arising from our derivatives activities, including the distribution of these risks among, and transfer of these risks, between our entities. We have further refined these capabilities in response to both the Final Guidance and as a result of executing self-identified initiatives. More specifically, among other initiatives, we have:

- enhanced our firmwide systems for tracking, documenting and managing derivatives to include more comprehensive detail at the business level;
- assessed our derivatives activities against the six LER Criteria relating to derivatives to determine whether our current derivatives activities can be adjusted to better support resolvability; and
- established new management oversight of derivatives activities to further strengthen monitoring and management of risks arising from derivatives.

We believe that these actions, together with the actions that we completed to sustain our derivatives and trading capabilities in previous Resolution Plans, will enable us to promptly and accurately address the changing market conditions and demands from counterparties that would be likely to occur during a resolution scenario, and to stabilize, wind-down and/or novate our derivatives portfolio in an orderly manner.

We have the operational capacity to facilitate the orderly transfer of prime brokerage accounts to other prime brokers.

We have prepared a robust analysis of the ability of our primary U.S. broker-dealer, JPMS LLC, and U.K. banking subsidiary, JPMS plc, to rapidly process prime brokerage account asset transfers so that it will be able to shrink in an orderly manner, effectively to a small portfolio of trading assets, derivatives, certain financing transactions with longer-dated maturities and residual cash, and no longer be systemically important. Based on this analysis, we have a Prime Brokerage Account Transfer Playbook that set out the specific steps by which we would timely

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and orderly transfer prime brokerage accounts to peer prime brokers. Our analysis and playbooks will enable our primary U.S. broker-dealer to, after our parent company files for bankruptcy, operate as usual in a reduced capacity, outside of our parent company's bankruptcy proceedings, and undergo a solvent wind-down, if needed.

We are confident that our primary U.S. broker-dealer will be able to transfer large numbers of prime brokerage accounts in the midst of market distress, because we've done it before. Our primary U.S. broker-dealer successfully executed transfers of significant customer portfolios by absorbing the prime brokerage business of Bear Stearns and a high inflow of market positions following the default of Lehman Brothers. We executed these transfers in a matter of hours and days. Based on that experience, as well as on further enhancement to and analysis of our primary U.S. broker-dealer's capabilities, we are confident our primary U.S. broker-dealer has the physical and operational capacity to timely process the expected volume of customer outflows in a resolution scenario without causing any market disruption.

Based on our analysis, we believe that other broker-dealers would be able to timely and orderly absorb the expected aggregate customer outflows from our primary U.S. broker-dealer in a resolution event. Since the financial crisis, most of our prime broker clients no longer rely on a single prime broker and the prime broker market has become more competitive. By maintaining relationships with multiple prime brokers, also referred to as multiprime relationships, our clients have the ability to quickly transfer their positions from our primary U.S. broker-dealer to another prime broker. Moreover, the increase in competition in the prime broker market means that there are more competitors available to absorb customer outflows, thereby minimizing the risk that bulk transfers of prime brokerage positions could disrupt the market.

We cooperate and coordinate with key stakeholders around the world so that they understand and support our Resolution Plan.

As a global financial institution, JPMorgan Chase conducts business through entities located throughout

the world. Our operating companies located outside of the United States are subject to oversight and regulation by foreign regulators. To minimize the risk that foreign regulators might act in a manner that impedes the successful implementation of our resolution plan through ring-fencing or other actions, we have designed our resolution strategy to encourage cooperation of foreign regulators during a resolution event and minimize incentives for taking unilateral actions.

First, our resolution strategy for key foreign entities of the firm either minimizes reliance on action by host jurisdiction authorities or assumes cooperation with foreign regulators in host jurisdictions only to the extent cooperation is in the best interests, or not inconsistent with the interests, of local stakeholders.

Second, our resolution strategy supports foreign regulatory cooperation by ensuring, through the repositioning of resources at Key Operating Entities, maintenance of a central buffer at IHC and execution of a secured Support Agreement that our foreign operating entities will remain fully capitalized under local law and have sufficient funding and liquidity so that they will not need to enter their own local proceedings.

Third, our resolution strategy includes advance planning and preparation, including advance confidential communications with foreign regulators to familiarize them with our strategy, before we expect we would have to use our resolution plan and during financial stress that could lead to our resolution. We believe that advance communication will enable foreign regulators to better understand how abstaining from ring-fencing our international subsidiaries or branches will preserve the value of local operations and achieve better outcomes for local creditors and stakeholders than if one of our foreign entities were cut off from the rest of the firm.

Fourth, we have developed a Crisis Management Communications Plan, which is designed to address communications to all relevant internal and external constituencies, including, among others, foreign regulators. To ensure that the Crisis Management Communications Plan is implemented at the appropriate points during a stress scenario, its implementation is linked to specific triggers that reflect our firm's financial condition. Our Crisis Management Communications Plan is designed to help us maintain close contact with U.S. and host country regulators throughout financial stress

and engage in real-time coordination on recovery and resolution actions to implement our recovery and Resolution Plans successfully.

Communications and Coordination with Foreign Regulators

Today:

- set the groundwork for cooperation through extensive Business as Usual communications efforts to educate host-country regulators on our Resolution Plan
- maintain and update, as needed, a tailored Crisis Management Communications Plan that provides a guide to communications to key stakeholders, including foreign regulators, in recovery or resolution

In financial stress scenario:

- update and implement our Crisis Management Communications Plan to communicate and coordinate in real-time with foreign regulators

Although we have made these preparations, as a conservative measure, our resolution plan assumes soft ring-fencing, which is where foreign regulators limit transfers of assets between affiliates in resolution. Thus, although our resolution plan is designed to encourage cooperation by foreign regulators, it is also designed to work even if foreign regulators fail to fully cooperate and decide to restrict the activities or assets of our foreign operating companies.

We believe that by engaging our foreign regulators in our resolution planning and establishing a framework to maintain communication and coordination with our foreign regulators during a resolution scenario, we have significantly reduced the likelihood that our foreign regulators would engage in ring-fencing or otherwise act in a manner adverse to our Resolution Plan.

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Defined terms are capitalized and may be found in the Glossary beginning on page 135.

Scope of Our Resolution Plan

Q. How are businesses designated as in-scope for purposes of our Resolution Plan?

A. The Agencies' implementing rule for Section 165(d) of the Dodd-Frank Act requires that our resolution plan focus on a subset of particularly important business lines—including associated operations, services, functions and support—the failure of which would result in a material loss of JPMorgan Chase's revenue, profit or franchise value. We have determined that our Corporate function and four principal operating segments—Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset & Wealth Management—for which financial results are presented in the U.S. GAAP financial statements and, therefore, are described in our parent company's reports on Forms 10-K and 10-Q, fall within this subset of important business lines. Corporate and these four operating segments (referred to as lines of business) include 20 underlying component businesses (referred to as sub-lines of business), which we have determined also fall within this subset of important business lines. In total, 25 of our business lines have been designated as in-scope for our Resolution Plan.

Q. How are operations designated as Critical Operations for purposes of our Resolution Plan?

A. The Agencies' implementing rule for Section 165(d) of the Dodd-Frank Act defines Critical Operations as operations, including associated services, functions and support, the failure or discontinuance of which would pose a threat to the financial stability of the United States. The Agencies have jointly designated certain of our operations as Critical Operations.

Q. How are entities and/or branches designated as in-scope for purposes of our Resolution Plan?

A. The Agencies' implementing rule for Section 165(d) of the Dodd-Frank Act requires that our resolution plan focus on a subset of particularly important subsidiaries and foreign branches within the firm that are significant to the activities of one or more of our Critical Operations, lines of business or sub-lines of business. We refer to these subsidiaries and branches as Material Legal Entities.

To determine whether a legal entity or branch in our firm is a Material Legal Entity for purposes of our Resolution Plan, we consider the following quantitative and qualitative criteria.

Total Assets

Any direct or indirect operating subsidiary of our parent company that would be required, if it were a stand-alone, independent entity, to file a resolution plan under section 165(d) of the Dodd-Frank Act will be designated as a Material Legal Entity. In general, this means that any of our operating entities that have total assets of \$50 billion or more will be designated as a Material Legal Entity.

For foreign branches of our main bank, JPMCB, any foreign branch that has greater than \$10 billion in total assets over the prior two fiscal years is designated as a Material Legal Entity.

Financial Importance to Lines of Business or Sub-Lines of Business

For operating entities (i.e., not for non-operating subsidiaries such as intermediate holding companies or pass-through entities), we consider the financial importance of the entities to lines of business or sub-lines of business. We look specifically to three financial metrics to determine an entity's financial importance to a line of business or sub-line of business: (1) total assets; (2) total revenue; and (3) total net income. For a limited number of entities, due to the nature of their activities, we consider assets under management or total liabilities instead of total assets for purposes of determining whether they are Material Legal Entities.

An operating entity will be designated as a Material Legal Entity if it satisfies either of the following criteria:

- two of the three financial metrics for the operating entity account for more than 10% of the total financial activity of a line of business or sub-line of business; or
- the operating entity needs to be designated as a Material Legal Entity to ensure that at least 75% of the financial metrics for each line of business and sub-line of business are covered by Material Legal Entities.

Importance to Critical Operations

For all entities, we consider the importance of the entities to our Critical Operations based on the following criteria:

- the entity provides greater than 10% of funding and liquidity to a Critical Operation;
- the entity employs greater than 10% of the headcount required to run a Critical Operation; and
- the entity executes greater than 10% of activity for one of the firm's key FMUs.

We also consider certain additional quantitative criteria for specific Critical Operations.

As a backstop, if designated Material Legal Entities do not account for at least 75% of the funding (together with third-party sources of funding), headcount, and payment, clearing and settlement activity for each Critical Operation, we consider designating additional entities as Material Legal Entities to meet the 75% threshold. We believe this backstop helps ensure that we, as required by the Agencies' implementing rule for section 165(d) of the Dodd-Frank Act, designate as Material Legal Entities all entities that are significant to a Critical Operation.

In addition to the quantitative criteria discussed above, we also consider qualitative criteria:

- as part of determining whether an additional entity should be designated to meet the 75% threshold, whether the absence of the entity would impede or disrupt the provision of a Critical Operation; and
- regardless of its size, whether the entity is essential to the provision of a Critical Operation. If the entity is essential, then it will be designated as a Material Legal Entity.

Importance to Derivatives Activities

Designated Material Legal Entities must in the aggregate represent the execution of at least 90% of the notional amount and number of trades for all:

- external client-facing derivatives activities;
- internal interaffiliate derivatives activities; and
- internal interaffiliate derivatives activities between Material Legal Entities.

Material Legal Entities with derivatives portfolios are deemed to be material derivatives entities under the Final Guidance.

Q. How often are entities and/or branches assessed to determine whether they should be designated as Material Legal Entities for the Resolution Plan?

A. We assess entities to determine whether they should be designated as Material Legal Entities on a quarterly basis as part of our Business as Usual processes. This assessment involves both (1) the review of existing Material Legal Entities either to confirm their designation or to undesignate them, and (2) the evaluation of entities that are not currently designated as Material Legal Entities to determine whether they should be so designated. As part of our assessment, we consider prior-quarter-end financial data, as well as additional inputs from Corporate Treasury and lines of business, as required by our MLE designation criteria.

This quarterly assessment process is subject to significant oversight by senior management. We have established a governance forum that meets on a quarterly basis to review the results of our quarterly MLE designation assessment with the JPMorgan Chase Recovery and Resolution Executive. To ensure that relevant recovery and resolution planning individuals are kept abreast of changes to MLE designation, we make sure that, as appropriate, key decisions regarding MLE designations are disseminated to existing recovery and resolution planning governance bodies following the quarterly governance forums and changes to MLE designations are reflected in our management information systems. In addition, when a legal entity change occurs (i.e., eliminated or created), the impact on the MLE designation is considered.

Q. Do changes in Material Legal Entities require changes to the resolution strategy?

A. Our preferred Single Point of Entry resolution strategy does not change even if we identify new Material Legal Entities. This is also the case if we de-designate a former Material Legal Entity (for example, by merging it into another Material Legal Entity). Such changes to our structure may lead to changes in how resources are maintained or to operational updates to account for the fact of the changes, but they do not have a material effect on our overall resolvability or Resolution Plan.

Capital and Liquidity/Funding

Q. During Single Point of Entry, Key Operating Entities are given “sufficient capital and liquidity support.” What total liquidity resources and loss absorbing capital resources are available at the firm?

A. We hold total loss absorbing resources and HQLA, in amounts that are more than sufficient to absorb extensive capital losses and weather severe liquidity stress. Our loss absorbing resources include long-term debt, common equity, preferred equity and certain reserves. These resources will be used to impose losses on shareholders and creditors—not taxpayers—if we were to fail.

We maintain an appropriate balance of projected resolution liquidity and capital resources at our Key Operating Entities, and IHC serves as a central buffer, consisting of capital and liquidity resources, that can be used to provide additional support to our Key Operating Entities in a range of resolution scenarios.

Q. When and how are resources calculated?

A. We have implemented a process whereby capital and liquidity resources at our Key Operating Entities are calculated and monitored on a regular, ongoing basis (in some cases daily). These calculations are based on how much capital and liquidity each of our Key Operating Entities requires for Business as Usual purposes and to successfully execute our resolution strategy, should the need arise. We use conservative forecasts of losses in a resolution scenario to calculate the amount of capital each of our Key Operating Entities requires to remain solvent and maintain market confidence while our parent company is resolved. With respect to liquidity, we: (1) calculate the minimum operating liquidity, including intraday liquidity needs, needed at each Key Operating Entity in order for that entity to meet its obligations; and (2) conservatively forecast the maximum liquidity, or peak funding need, required at each Key Operating Entity in order for that entity to stabilize while our parent company is resolved.

Q. What are examples of intercompany frictions?

A. An intercompany friction is anything that could limit the free flow of capital or liquidity to Key Operating Entities. A basic example of a friction is tax—if we wanted to send \$80 to an entity and there was a 20% tax on the transfer, then the tax friction would mean that we need to have \$100 available in order to provide the \$80 ($\$100 - 20\% \text{ in taxes} = \80). An example of a regulatory friction would be the need to obtain a regulatory approval to move financial resources to an entity, which could delay the timely receipt of capital and/or liquidity support. An example of a jurisdictional friction is the risk that a foreign regulator will restrict a local operating entity from using its excess financial resources to support other operating entities (a practice commonly referred to as ring-fencing). To reduce or eliminate potential intercompany frictions, we maintain an appropriate balance of projected resolution liquidity and capital resources at all of our Key Operating Entities.

Q. Have you incorporated the Basel III Advanced RWA framework into the resolution financial forecasting, in addition to using Standardized RWA?

A. Certain capital ratios are determined by using risk-weighted assets, or RWA. We have incorporated both the Advanced and Standardized RWA frameworks into calculations used in our Resolution Plan.

Q. How are capital and liquidity resources located at IHC deployed in resolution?

A. Figure 14 illustrates how capital resources located at IHC could be deployed in resolution, and Figure 15 illustrates how liquidity resources located at IHC could be deployed in resolution.

Figure 14. How Capital Resources Could Be Deployed in Resolution

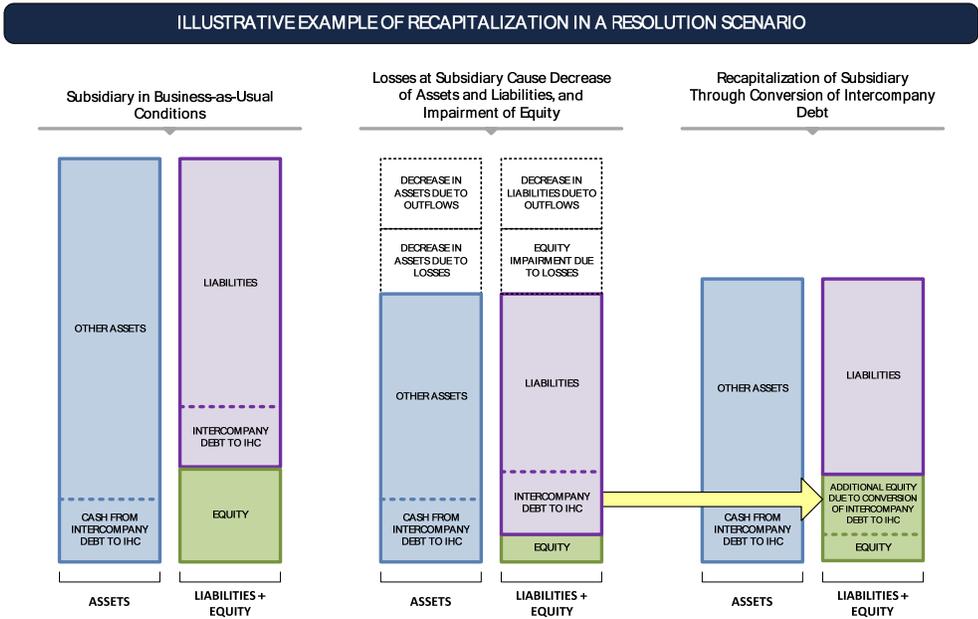
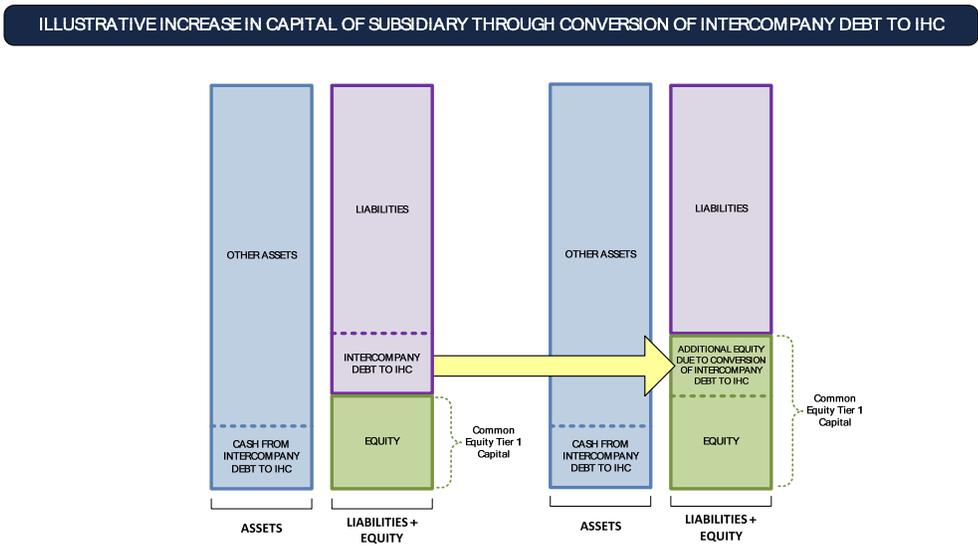
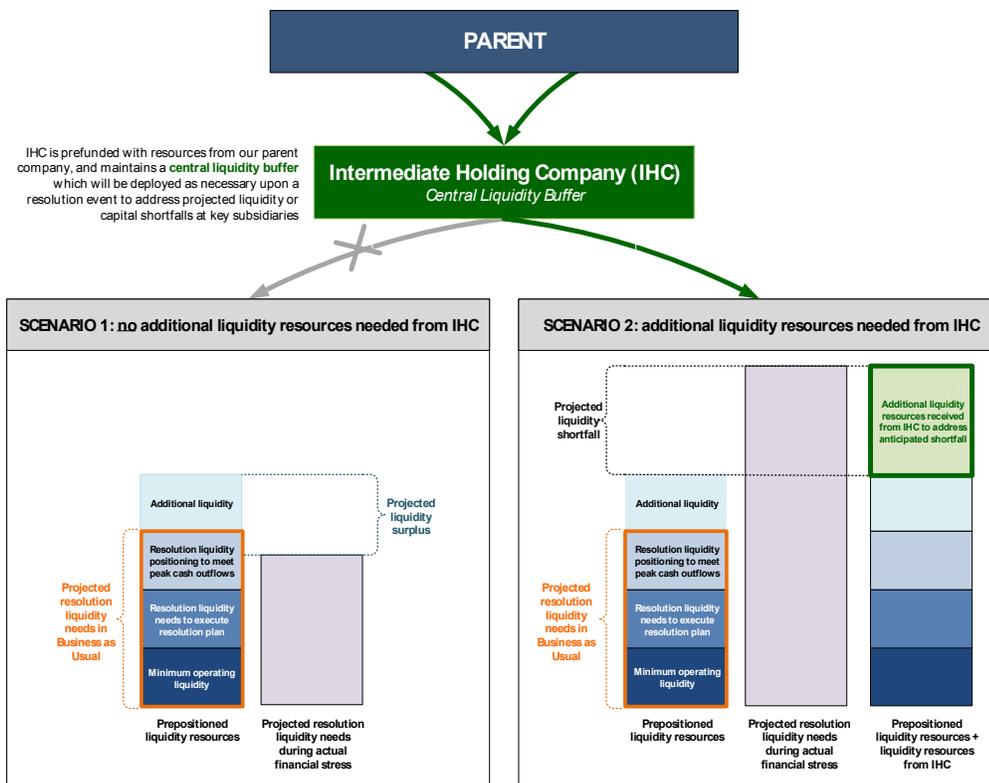


Figure 15. How Liquidity Resources Could Be Deployed in Resolution



Governance Mechanisms and Triggers

Q. What are examples of circumstances that constitute a "trigger" and how is that determined?

A. Certain triggers are tied to projected capital and liquidity needs to successfully implement our Single Point of Entry strategy. Triggers are used to escalate critical information to key decision makers and initiate governance processes in our firm so that they can take appropriate and timely action throughout the various stages of stress/recovery and resolution (Business as Usual, Stress Period, Recovery Period, Filing Preparation Period, Resolution Weekend and the Post-Resolution Event Period). These triggers, referred to as Stage Triggers, are based on the financial condition of the firm as a whole and are tied to indicators of the firm's health, such as certain regulatory requirements. If the firm's condition deteriorates below a certain regulatory metric or threshold, then a Stage Trigger would move the firm further along in the stages.

Q. Are separate triggers determined for each Key Operating Entity?

A. Stage Triggers are determined for the firm as a whole. We have developed for each Key Operating Entity specific capital and liquidity triggers.

Critical Service Relationships

Q. How are contracts with vendors and third parties handled in resolution?

A. We have, where necessary, revised the terms of the contracts we have with vendors and other third parties so that the Critical Shared Services provided to our Key Operating Entities cannot be terminated solely because of the failure of our parent entity, as is contemplated in our Resolution Plan. In particular, contracts that contain termination rights and change-of-control clauses that could impede our resolvability have been amended to remove those provisions and to allow us to transfer or assign the contract in a resolution event. Any new contracts with any entity in our firm will also incorporate these resolution and divestiture friendly provisions. In addition, our frameworks of liquidity needed for resolution take into account the payments our Key Operating Entities would need to continue to make to vendors and other third parties in order to continue to receive services in a resolution scenario. So when we talk about being prepositioned, that includes prepositioning to continue to pay for services.

Q. How could intragroup interconnectedness complicate resolution?

A. The Key Operating Entities rely on each other for certain Critical Shared Services and share certain corporate resources. JPMCB, our main bank subsidiary, houses many of the systems, data, IP and other shared corporate functions used by our other Key Operating Entities. Many of our other Key Operating Entities also share personnel, facilities and other resources with each other. Although an interruption of these Critical Shared Services could complicate a smooth resolution, the preparations we have made for resolution and our Single Point of Entry strategy are designed so that Key Operating Entities that provide these Critical Shared Services have sufficient financial resources to remain operational, pay for services and otherwise meet obligations when due in resolution.

Q. What arrangements are in place to support interconnected operations within the firm during resolution?

A. Our intragroup Critical Shared Services are supported by structures and features (legal and financial) to support their continuity and minimize complications during a resolution scenario. Under our resolution strategy, Key Operating Entities can continue to provide Critical Shared Services to each other because all these entities, other than our parent company, remain funded and continue to operate without being placed in resolution proceedings. In order to further support the continuity of our Critical Shared Services in a resolution scenario, we have taken, or plan to take, the following additional actions to support our Critical Shared Services:

- we have structured our firm so that nearly all of the Critical Shared Services are provided by the JPMCB Bank Chain, all of which will continue to operate through the Resolution Period;
- our Key Operating Entities are party to intragroup servicing and licensing agreements with resolution-appropriate provisions so that they can continue to pay for and receive Critical Shared Services during resolution;
- for Critical Shared Services provided by our Objects of Sale, to the extent necessary we are prepared to enter into transition services agreements at the time of the sale or divestiture so that our other Key Operating Entities can continue to receive Critical Shared Services in resolution; and
- in the event a Key Operating Entity needs to be wound down, other entities within our firm have the capabilities and stand ready to continue providing the Critical Shared Services previously provided by the wound-down entity.

Employee Retention and Continuity of Operations

Q. How can you ensure knowledge management and employee continuity in key functions during resolution?

A. We understand that a successful resolution strategy requires that certain key employees and personnel have the incentive to stay, even while the firm's financial position deteriorates. To that end, we have developed an employee retention framework designed to appropriately incentivize key employees and personnel to stay in a resolution scenario, even if our parent company were to fail. Key employees and personnel are identified on a regular basis, and employee retention plans have been designed to be put into place in resolution.

Derivatives and Trading Activities

Q. How have you estimated the resolution costs of unwinding your derivatives and trading activities portfolio?

A. Although some positions are expected to close during the filing preparation period, for purposes of estimates, the active wind-down of the derivative positions would, at a high level, be accomplished in the following three ways.

- **Terminated Trades.** In line with the Agencies' guidance, the ISDA Protocols are assumed to be in place and effective for counterparties of the firm.
- **Maturing Trades.** All positions with maturity of less than 24 months are assumed to mature without being renewed.

- **Novated Trades.** Some of the positions with maturities greater than 24 months are assumed to be packaged and sold (novated) to other dealers active in the market.

We further segmented our derivatives portfolio based on input from subject-matter experts, using dimensions such as product, currency, counterparty type and region, to develop novation packages. For each of these segments, we estimated the price that could be realized in stressed markets.

Over the years, we have enhanced our orderly active wind-down analysis by:

- establishing a framework to develop novation packaging and remaining portfolio logic;
- developing a trade-level database to allow for detailed analyses of novation packages and remaining portfolio composition;
- refining novation packaging logic and creating novation packages based on individual trades to reflect market practices;
- evolving our approach to the remaining portfolio, which would constitute a deterministic (hard-to-sell) remaining portfolio and a probabilistic (unpicked trades) remaining portfolio;
- upgrading our trade-level database and analytics, dramatically reducing processing time and moving to a more robust technical infrastructure;
- implementing a Business as Usual process for refreshing wind-down results and analysis on a quarterly basis;
- extending the time horizon for our derivatives wind-down to 24 months, and assuming for our resolution planning purposes that the 2018 ISDA U.S. Resolution Stay Protocol is in effect for all counterparties; and
- engaging in ongoing compliance relating to contractual recognition of resolution stay powers and the remediation of Qualified Financial Contracts.

Based on our orderly active wind-down analysis, we have:

- modeled that we can successfully unwind substantially all of our derivatives portfolio over an 24-month period;
- estimated costs of rehedging or replacing risk, under the assumption that all hedges must be executed with exchange-traded or centrally-cleared instruments; and
- estimated the positions remaining after 24 months, and determined that these positions were not systemically important.

Q. What do the ISDA Protocols do?

A. The ISDA Protocols each, among other things, override cross-default rights that arise under certain Qualified Financial Contracts when a parent company that provides a guarantee or credit support for the Qualified Financial Contracts files for Chapter 11 bankruptcy, if one of the following two sets of conditions is met:

- the parent company's obligations under the guarantees are transferred to (1) an unaffiliated third-party or (2) a company organized to hold the parent's assets in connection with the parent's bankruptcy proceedings for the benefit of the bankruptcy estate, but that is not controlled by the parent company, its creditors or its affiliates; or
- the bankruptcy court elevates legal claims based on the parent company's Guarantee Obligations to a certain priority status in the parent's bankruptcy case.

One of the two sets of conditions above must be satisfied by the later of 48 hours, or 5:00 p.m. on the first business day, after the parent company files for bankruptcy.

Q. What do the Qualified Financial Contracts Stay Rules do?

A. The U.S. banking regulators adopted the Qualified Financial Contracts Stay Rules to facilitate the orderly reorganization or resolution of systemically important financial institutions like our firm. The Qualified Financial Contracts Stay Rules require entities covered by the rules, referred to as Covered Entities, to amend Qualified Financial Contracts to:

- include an express recognition of the statutory stay-and-transfer powers of the FDIC under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Act, and
- override any cross-default rights based, directly or indirectly, on an affiliate's entry into insolvency or resolution proceedings, as well as any restrictions that could impede the transfer in resolution of guarantees or other enhancements of Qualified Financial Contracts furnished by an affiliate.

JPMC and, subject to certain minor exceptions, all of its subsidiaries are Covered Entities under the Qualified Financial Contracts Stay Rules.

Q. Why are you no longer creating Rating Agency Playbooks?

A. Rating Agency Playbooks are no longer required under the Final Guidance. Nevertheless, our resolution plan is designed to stabilize entities and restore market confidence so that parties will continue to transact with Key Operating Entities, including derivatives entities, following a severe stress event.

Resolution Process

Q. How does the Single Point of Entry strategy support the wind-down of an entity and its operations (as opposed to an entity being stabilized and continuing and/or being divested)?

A. Our Single Point of Entry strategy is designed so that all of our Key Operating Entities would have or receive sufficient capital and liquidity support to carry out the strategy for that specific entity. This means that an entity which would be wound-down under the strategy has sufficient resources to orderly close out transactions, to retain essential employees and to meet all obligations as they come due while it is being wound down.

Q. Why would "problem" entities that

A. Our resolution strategy is a value-preserving strategy, designed to ensure the continuity of Critical Operations, and to maximize the benefit for our parent

contributed to the failure of the organization be supported?

company's creditors in the event it files for bankruptcy. As such, all of our Key Operating Entities, including any potential problem entities that may have contributed to the failure of the organization, are provided support in order to remain as solvent, going concerns throughout resolution. We would expect, however, that senior management of any so-called problem entities would have to take responsibility and be replaced, and the cause of any "problem" would be remediated.

Q. How are potential Object-of-Sale buyers evaluated?

A. Some of the same professionals at our firm who advise clients on mergers and acquisitions have screened an expansive universe of potential acquirers, both U.S. and foreign, for the Objects of Sale. For each Object of Sale, we apply five main criteria to determine which buyers are the most suitable:

- **Scale.** The relative size, including market capitalization of the potential buyer and the expected synergy benefits, if any, will determine the buyer's ability to acquire the Object of Sale in a resolution scenario;
- **Strategic Fit.** We evaluate the strategic advantages of adding the Object of Sale to the potential buyer's existing business or financial portfolio;
- **Business Fit.** A strategic buyer must be able to seamlessly integrate the operations of the acquired Object of Sale into its own;
- **Financial Capability.** We evaluate the buyer's ability to pay, which would differ based on both structural and business reasons, and the buyer's liquidity, current leverage and access to capital markets will be a consideration; and
- **Regulatory Considerations.** We evaluate which approvals may be required for a particular sale and the likelihood that these approvals can be obtained.

Using this methodology, we have identified multiple potential buyers, strategic and financial, for each of the 21 Objects of Sale.

Q. Why do you believe there will be willing buyers of your Objects of Sale in a resolution scenario?

A. We have conducted detailed reviews of potential acquirers and their ability and appetite to purchase our Objects of Sale in a resolution scenario. We believe that our Objects of Sale are highly attractive businesses. Many of them are global leaders and top competitors in the products and markets in which they have chosen to compete. As a result, we expect each Object of Sale to have multiple, diverse and not necessarily overlapping potential buyers.

International Stakeholder and Regulator Coordination

Q. How can you assume cooperation and coordination with key international stakeholders?

A. We designed our resolution strategy to minimize or eliminate the need for global regulatory cooperation by having only our parent company enter resolution proceedings in the United States, while our Key Operating Entities receive necessary capital and liquidity support and continue as going concerns under a trust insulated from the resolution process. This means that the only necessary actions by foreign regulators generally are processing of or approving the indirect change in control to the trust. Because moving the Key

Operating Entities under a trust enables them to continue providing services to local clients, depositors or other stakeholders without interruption, and the entities will have sufficient capital and liquidity to meet local regulatory and other obligations, those actions are aligned as closely as possible with local regulatory concerns and goals of home-country financial stability and encourage, to the extent required, global regulatory cooperation.

Q. How are you preparing for Brexit?

A. The principal operational risks associated with Brexit continue to be the potential for disruption caused by insufficient preparations by individual market participants or in the overall market ecosystem, and risks related to potential disruptions of connectivity among market participants.

We established a Firmwide Brexit Implementation program in 2017. The program covers strategic implementation across all impacted businesses and functions. The program's objective is to deliver our capabilities on "day one" of the U.K.'s withdrawal across all impacted legal entities. The program includes an ongoing assessment of implementation risks, including political, legal and regulatory risks and plans for addressing and mitigating those risks. The firm is also monitoring the expected macroeconomic developments associated with a no-deal scenario and has undertaken stress testing covering credit and market risk to assess potential impacts.

With respect to our resolution planning, we have assessed the potential impact of any changes to our organizational structure or operations as a result of Brexit, and are incorporating them as appropriate into our Resolution Plan.

Recovery and Resolution Planning—General

Q. What resources has the firm dedicated to resolution planning?

Over the last several years, we have devoted considerable resources in order to embed operational, financial and legal considerations related to recovery and resolution planning into our Business as Usual decision-making and management of the firm.

Q. How does the firm's resolution plan differ from a traditional corporate bankruptcy?

A. The focus of a traditional corporate bankruptcy is on maximizing the amount of recovery for creditors. By insulating all of our Key Operating Entities from resolution proceedings, our Single Point of Entry strategy is a highly effective way to preserve the value of our enterprises for the benefit of our parent company's creditors. Preservation of value is not, however, the sole focus of our Resolution Plan.

A significant focus of our resolution plan is on facilitating the orderly and timely resolution of JPMorgan Chase in a manner that does not threaten the rest of the U.S. financial system and does not require U.S. taxpayer support. To this end, our resolution plan is designed to: (1) limit financial contagion and disruptive knock-on effects; (2) ensure the continuity of Critical Operations; (3) minimize

the risk of adverse counterparty actions; (4) minimize deposit attrition; (5) reduce or eliminate the need for cooperation by non-U.S. regulators; and (6) ensure that creditors and shareholders—not taxpayers—bear any losses. In addition, under our Resolution Plan, senior management and culpable personnel will be held responsible for their role in the firm’s failure. In this sense, resolution is the same as bankruptcy in any other industry.

Q. What steps is the firm taking to maintain and improve resolvability looking forward?

A. We are not waiting until the next crisis to update our Resolution Plan—we regularly test our resolution strategy under rigorous stress scenarios (both developed internally and provided by our regulators), and we regularly challenge our resolution plan assumptions and self-identify and undertake new initiatives to support our resilience and resolvability. Resolvability considerations are now embedded in our Business as Usual governance frameworks so that they inform our strategy and day-to-day decisions and operations. In addition, we performed a resolution tabletop exercise to support our continued resolution preparedness by testing the operationalization of our Support Agreement and addressing any identified areas of improvement.

Q. Did the 2017 resolution plan resolve any previously identified Shortcomings?

A. In a December 2017 letter, the Agencies stated that our July 2017 Submission adequately remediated the Shortcomings they had identified. No further shortcomings or deficiencies were identified. This letter may be found here: [December 2017 Letter](#).

Q. What guidance is applicable to the 2019 Resolution Plan?

A. In addition to the 165(d) Rule, the Final Guidance issued by the Agencies in December 2018 describes the Agencies’ expectations regarding key vulnerabilities in resolution plans and updated and superseded prior guidance. The guidance may be found here: the [Final Guidance](#). Most significantly, the Final Guidance updated requirements related to payment, clearing and settlement activities as well as to derivatives and trading activities.

We have made a significant number of key changes to maintain the firm’s resolvability. Many of these enhancements we self-identified and others better respond to the Final Guidance, especially with respect to payment, clearing and settlement services and derivatives. Though the combination of new initiatives and our existing resolution planning efforts, we believe that we have fully addressed all aspects of the Final Guidance.

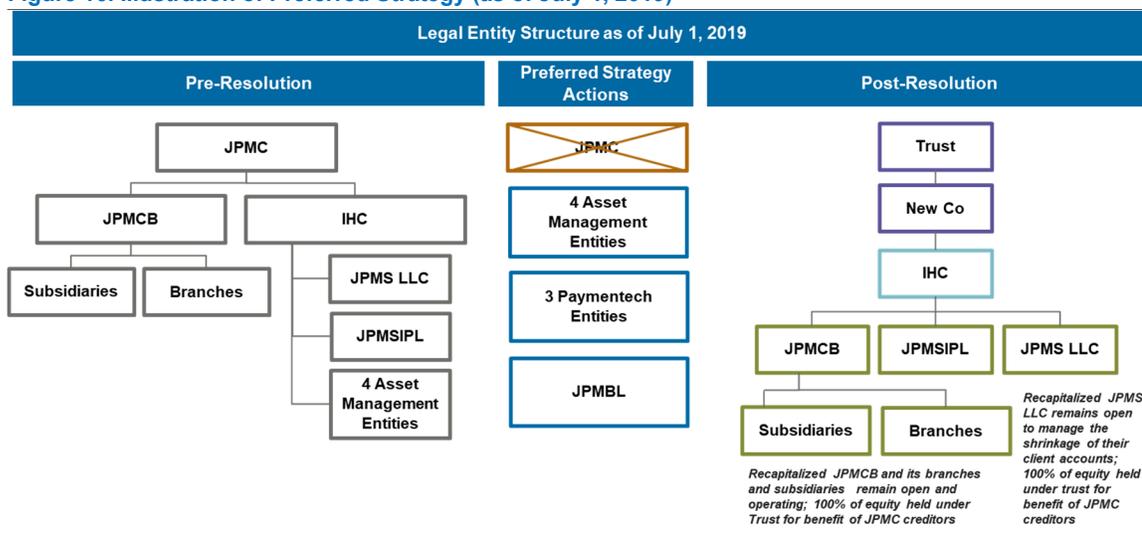
Q. Will the regulations implementing the resolution planning requirements of section 165(d) of the Dodd-Frank Act change?

A. In April 2019, the Agencies issued a notice of proposed rulemaking inviting comment on a proposal to amend the 165(d) Rule. The proposal would update requirements of the existing rules, such as by tailoring plan content requirements and revising submission deadlines based on firms’ size and complexity. The proposal includes improvements identified to resolution planning requirements since the promulgation of the 165(d) Rule and reflects the Agencies’ efforts to incorporate their experience gained from several rounds of previous resolution plan submissions, an effort that we fully support.

Q. Does the merger of CUSA with and into JPMCB have any meaningful effect on the Preferred Strategy or the Resolution Plan, and have there been any other events that would do so since December 31, 2018?

A. Since December 31, 2018, CUSA and certain subsidiaries, including CBS (a Material Legal Entity), merged into and with JPMCB, our main bank and an existing Material Legal Entity, resulting in the elimination of two Material Legal Entities. In addition, JPMIB, a U.K. bank, merged with JPMBL, which was designated a Material Legal Entity in the third quarter of 2018. The CUSA merger has significantly reduced financial and operational interconnectedness. None of these mergers materially impacts our Single Point of Entry strategy or how the Preferred Strategy would be implemented, as illustrated in Figure 16 below.

Figure 16. Illustration of Preferred Strategy (as of July 1, 2019)



JPMorgan Chase Enhancements to Resolvability

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Enhancements

Defined terms are capitalized and may be found in the Glossary beginning on page 135.

The firm has been focused on bolstering and enhancing its overall resolvability since the financial crisis with a particular focus on core elements of our Resolution Plan including:

- capital;
- liquidity and funding;
- governance;
- divestiture readiness, separability and optionality;
- derivatives and trading activities;
- legal entity rationalization and business simplification; and
- operational capabilities and readiness.

Since the financial crisis, JPMorgan Chase has made approximately 1,400 enhancements to the firm, of which over 400 are since 2017, to continually improve its resolvability and optionality in a resolution scenario and to embed recovery and resolution planning into its day-to-day management, decision-making, governance and strategic priorities. The firm has dedicated substantial senior management and employee time to simplifying its operating processes, governance, reporting, controls, infrastructure, capabilities, resolvability and support functions. All of these enhancements have an impact throughout the firm. Highlights of some of the most significant resolvability enhancements since 2017 are:

Capital

- Implemented Contingency Capital Plan and related supplements:
 - Implemented new internal policy guidance for eligible TLAC and long-term debt instruments
 - Performed annual updates to internal minimum targets; implemented refinements to the calibration methodology
 - Refined capital contingency actions expected to be taken or considered at each capital limit/indicator breach

- Added additional capital monitoring triggers and incorporated them in the firmwide capital management policy/Contingency Capital Plan
- Consolidated the management and oversight of liquidity and capital on a firmwide basis within Corporate Treasury, inclusive of related stress testing and planning
- Established a capital management oversight group within the Risk function to provide assessment, monitoring and control of capital risks across the firm

Liquidity and Funding

- Enhanced Contingency Funding Plan to include actions in the firm's Comprehensive List of Actions that could potentially generate liquidity or capital in a stress event, consistent with the Comprehensive List of Actions in the recovery plan
- Enhanced reporting and monitoring processes over unallocated centralized (buffer) resources at IHC
- Enhanced Intercompany Funding/Liquidity Policy to include funding approval thresholds and increase granularity of pre-trade approvals by MLE
- Enhanced the firm's internal liquidity stress framework with emphasis on intercompany funding arrangements
- Continued to replace short-term funding with long-term funding where required/appropriate

Governance

- Conducted our first resolution tabletop exercise to test the operationalization of the Support Agreement
- Amended the firm's Support Agreement to reflect lessons learned from the resolution tabletop exercise
- Developed a new Master Playbook that details the interaction of all of the various playbooks and plans, enumerating actions to be taken and decisions to be made through each stage of the resolution timeline

- Enhanced governance and oversight of resolution and recovery planning efforts through additional senior management forums

Divestiture Readiness, Separability and Optionality

- Enhanced capability to populate in a timely manner and make available electronic data rooms with information pertinent to a potential divestiture, consistent with the Final Guidance
- Improved separability analysis to include the identification of the incremental obstacles to divestiture that would arise in FDIC receivership, thus further enhancing divestiture readiness from an IDI perspective
- Commissioned an expert analysis to identify Objects of Sale that provided meaningful optionality and would be most practically absorbed by the market

Derivatives and Trading Activities

- Continued further enhancements to the firm's derivatives booking model documentation through expansion of scope to include linked non-derivatives and redesign of decision trees at a granular business level
- Developed a framework to assess the significance of derivatives in our legal entities
- Upgraded the derivatives database, dramatically reducing processing time and moving to a more robust technical infrastructure
- Implemented Business as Usual process for refreshing wind-down results and analysis on a quarterly basis
- Harmonized wind-down methodology used to meet the requirements of various cross-jurisdictional regulatory bodies
- Extension of wind-down time horizon from 18 to 24 months reduced the remaining portfolio by 23% since the 2017 Resolution Plan

- Worked with ISDA and market participants in developing 2018 ISDA U.S. Resolution Stay Protocol language that ensures contractual recognition of regulatory stay powers; implemented program of client outreach and internal tracking to manage phased-in compliance required of all in-scope entities in advance of G-SIB compliance deadline of January 1, 2019
- Reviewed existing reporting capabilities, and developed standard reporting methodology
- Completed analysis of operational capabilities to ensure timely and orderly transfer of prime brokerage customer accounts

Legal Entity Rationalization and Business Simplification

- In May 2019, CUSA and CBS merged into JPMCB, simplifying operational and financial interconnectivity
- In January 2019, completed the merger of JPMIB into JPMBL in line with our Brexit strategy
- Eliminated four MLEs
- Continued simplification efforts to reduce both MLE and non-MLE populations along with simplifying ownership structures
- Enhanced reporting of legal entity metrics through automation to include greater transparency in tracking the execution status of operating entity eliminations
- Automated the framework to assist the lines of business with the prioritization of elimination candidates
- Implemented legal entity elimination procedures so that lines of business can better plan for such eliminations

Operational Capabilities and Readiness

- Updated and streamlined key FMU and Agent Bank playbooks

- Reviewed and validated the key FMUs for the firm; added Bank of New York to the list and undertook associated analyses
- Identified and mapped key clients to key FMUs and agent banks
- Developed of payment, clearing and settlement services framework and methodology to identify key clients
- Enhanced the analyses and narrative supporting the firm's Critical Services model, including Critical Operations, corporate shared services, and line of business-owned shared services with enhanced granularity of Critical Services
- Continued to enhance our automation and processes around resolution liquidity, capital and pro forma forecasting and associated capabilities
- Continued to expand data center recovery capabilities, migrate services and applications to cloud-based services, and enhance firmwide cybersecurity

Overview of JPMorgan Chase

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Lines of Business

Defined terms are capitalized and may be found in the Glossary beginning on page 135.

JPMorgan Chase, a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the United States, with operations worldwide. The firm had approximately \$2.6 trillion in assets and \$256 billion in stockholders' equity as of December 31, 2018. The firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, we serve millions of customers in the United States and many of the world's most prominent corporate, institutional and government clients.

For resolution planning purposes, JPMorgan Chase has identified "core business lines." Under the 165(d) Rule, core business lines means "those business lines of the covered company, including associated operations,

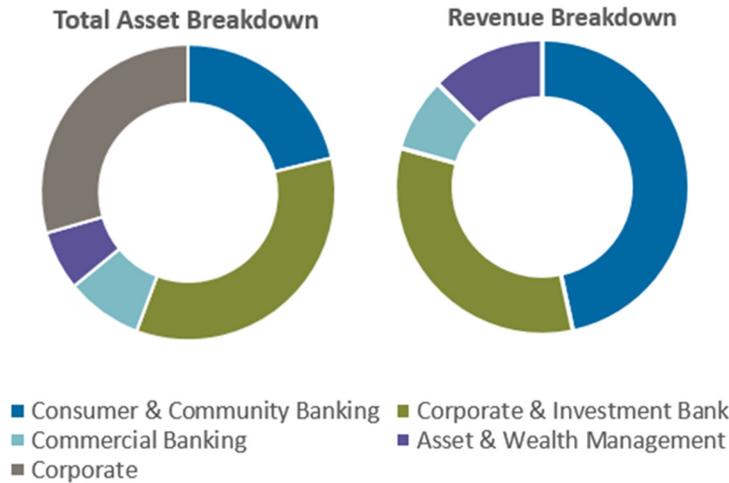
services, function and support, that, in the view of the covered company, upon failure would result in a material loss of revenue, profit, or franchise value." We have identified 25 core business lines, which we refer to as lines of business or sub-lines of business, which represent the firm's four principal business segments, as well as Corporate, and the 20 sub-segments that report into the segments that we believe satisfy the definition of core business line. Figure 17 sets out all of our lines of business and sub-lines of business, and Figure 18 illustrates the relative size of our five lines of business based on total assets and revenue.

The lines of business and sub-lines of business discussed in this Public Filing are core business lines identified solely for resolution planning purposes. In some circumstances, resolution sub-lines of business listed in this Public Filing might differ from JPMC's sub-segments discussed in the 2018 Form 10-K.

Figure 17. Lines of Business and Sub-Lines of Business

Consumer & Community Banking	Corporate & Investment Bank	Commercial Banking	Asset & Wealth Management	Corporate
<ul style="list-style-type: none"> ◆ Consumer / Business Banking ◆ Home Lending ◆ Auto ◆ Merchant Services ◆ Credit Card 	<ul style="list-style-type: none"> ◆ Fixed Income ◆ Equities ◆ Global Clearing ◆ Prime Finance ◆ Custody & Fund Services ◆ Treasury Services ◆ Global Investment Banking 	<ul style="list-style-type: none"> ◆ Middle Market Banking ◆ Commercial Term Lending ◆ Corporate Client Banking ◆ Real Estate Banking 	<ul style="list-style-type: none"> ◆ Asset Management ◆ Wealth Management 	<ul style="list-style-type: none"> ◆ Treasury and CIO

Figure 18. Relative Sizes of the Lines of Business



Consumer & Community Banking

Consumer & Community Banking, or CCB, offers services to consumers and businesses through bank branches, ATMs, digital (including online and mobile) and telephone banking. CCB is organized into Consumer/Business Banking, or CBB, Home Lending, Credit Card, Merchant Services and Auto. CBB offers deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. Home Lending includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Credit Card, Merchant Services and Auto issue credit cards to consumers and small businesses, offer payment processing services to merchants, and originate and service auto loans and leases.

The following sub-segments within CCB have also been designated as sub-lines of business.

Consumer Banking / Business Banking

CBB includes deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. These products generally are available through multiple distribution channels including approximately 5,000 bank branches and over 16,000 ATMs, as well as through telephone banking, online banking and mobile banking. CBB serves consumers through its branch and ATM network in the United States.

Home Lending

Home Lending consists of Home Lending Production, Home Lending Servicing and Real Estate Portfolios. Home Lending offers purchase and refinance home loans to first-time and experienced home buyers, helps customers access the equity in their homes, services residential mortgage loans and holds portfolios of residential mortgages.

Home Lending Production represents the mortgage origination business, including four origination channels, secondary marketing and production operations support.

Home Lending Servicing includes Servicing and Shared Services & Other Support. Servicing assists customers for the life of their loan by delivering customer service through functions including sending monthly statements, collecting payments, supporting customers who need assistance in paying their mortgage or in resolving delinquency, and generally managing loan servicing. Shared Services & Other Support is a single utility of support functions that partner with each mortgage making business on project management, regulatory and business change management, employee communications, valuations, customer issue resolution and reporting.

Real Estate Portfolios consists of residential mortgage and home equity loans that JPMorgan Chase retains for investment purposes.

Auto

Auto provides auto loans and leases to consumers primarily through the purchase of retail installment sales contracts, through a national network of automotive dealers. In addition, Auto accepts applications for direct auto loans to consumers through its branches, phone and online. Auto also provides commercial and real estate loans to auto dealers.

Merchant Services

Merchant Services is a global payment processing and merchant acquiring business with offices in the United States, Canada and Europe.

Credit Card

Credit Card offers a wide variety of bankcard products to cater to the needs of multiple consumer and small business customer segments.

Corporate & Investment Bank

The Corporate & Investment Bank, or CIB, consists of Banking and Markets & Investor Services. CIB serves approximately 7,000 clients, including corporations, governments, states, municipalities, healthcare organizations, educational institutions, banks and investors. It offers a complete range of financial services and products, and provides strategic advice, lends money, raises capital, assists in managing risk and extends liquidity.

Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Treasury Services, which provides transaction services, consisting of cash management and liquidity solutions.

Markets & Investor Services is a global market-maker in cash securities and derivative instruments, and offers sophisticated risk management solutions, prime brokerage, and research. Markets & Investor Services also includes Securities Services, a leading global custodian, which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies, and public and private investment funds.

The following sub-segments within CIB have been designated as sub-lines of business.

Markets & Investor Services

Fixed Income

Fixed Income is active across credit markets, rate markets, currency markets and securitized product markets and includes the following segments: Global Rates & Rates Exotics; Currencies & Emerging Markets; FX Exotics & Hybrids; Commodities; Credit Trading & Syndicate; Global Credit Correlation; Global Securitized Products; Public Finance; Fixed Income Financing; Sales & Marketing; and Fixed Income Research.

Equities

Equities provides equity solutions to corporate, institutional and hedge fund clients, and distributors, private investors and broker-dealers worldwide. Solutions provided by Equities include trade execution, program and special equity trading services, equity-linked services and structuring for new equity-linked issuances, as well as marketing, structuring and trading services on equity-based or fund-based derivatives products.

Global Clearing

Global Clearing provides listed derivative and OTC Clearing services in an agency capacity to external and internal clients via a network of global clearinghouse memberships and, in addition, provides non-cleared OTC derivative intermediation services.

Prime Finance

Prime Finance offers a comprehensive range of financing, clearing, settlement and trade execution services to hedge funds across the world.

Custody & Fund Services

Custody & Fund Services is a sub-line of business within Corporate & Investment Bank. Custody & Fund Services is a global provider of securities services for institutional investors offering settlement, safekeeping and asset servicing, along with fund accounting and administration, agent lending and related services.

Banking

Treasury Services

The Treasury Services business is a full-service provider of cash management, liquidity, escrow services and electronic financial services.

Global Investment Banking

Global Investment Banking provides advisory, full-service capital raising, credit solutions and risk management solutions to help clients achieve their financial objectives.

Global Lending

Global Lending provides traditional credit products, including loans, revolving commitments and cross-border trade transactions to CIB Banking clients globally.

Commercial Banking

Commercial Banking delivers extensive industry knowledge, local expertise and dedicated service to U.S. and U.S. multinational clients, including corporations, municipalities, financial institutions and nonprofit entities with annual revenue generally ranging from \$20 million to \$2 billion. In addition, Commercial Banking provides financing to real estate investors and owners. Partnering with the firm's other businesses, Commercial Banking provides comprehensive financial solutions, including lending, treasury services, investment banking and asset management to meet its clients' domestic and international financial needs.

The following sub-segments within Commercial Banking have been designated as sub-lines of business.

Middle Market Banking

Middle Market Banking covers corporate, municipal and nonprofit clients, with annual revenue generally ranging between \$20 million and \$500 million.

Corporate Client Banking

Corporate Client Banking covers clients with annual revenue generally ranging between \$500 million and \$2 billion and focuses on clients that have broader investment banking needs.

Commercial Term Lending

Commercial Term Lending primarily provides term financing to real estate investors/owners for multifamily

properties as well as office, retail and industrial properties.

Real Estate Banking

Real Estate Banking provides full-service banking to investors and developers of institutional-grade real estate investment properties.

Asset & Wealth Management

Asset & Wealth Management, or AWM, with client assets of \$2.7 trillion, is a global leader in investment and wealth management. AWM clients include institutions, high net worth individuals and retail investors in many major markets throughout the world. AWM offers investment management across most major asset classes including equities, fixed income, alternatives and money market funds. AWM also offers multi-asset investment management, providing solutions for a broad range of clients' investment needs. For Wealth Management clients, AWM also provides retirement products and services, brokerage and banking services including trusts and estates, loans, mortgages and deposits. The majority of AWM's client assets are in actively managed portfolios.

The following sub-segments within Asset & Wealth Management have been designated as sub-lines of business.

Asset Management

Asset Management provides comprehensive global investment services, including asset management, pension analytics, asset-liability management and active risk-budgeting strategies.

Wealth Management

Wealth Management provides comprehensive global investment services, including asset management, pension analytics, asset-liability management and active risk-budgeting strategies.

Corporate

The Corporate segment consists of Treasury and the Chief Investment Office, or CIO, and Other Corporate, which includes corporate staff units and expense that is centrally managed. Treasury and CIO is predominantly responsible for measuring, monitoring, reporting and

managing the firm's liquidity, funding, capital and structural interest rate and foreign exchange risks. The major Other Corporate functions include Real Estate, Technology, Legal, Corporate Finance, HR, Internal Audit, Risk Management, Compliance, Control Management, Corporate Responsibility and various other Corporate groups.

The following sub-segment within Corporate has been designated as a sub-line of business.

Treasury and CIO

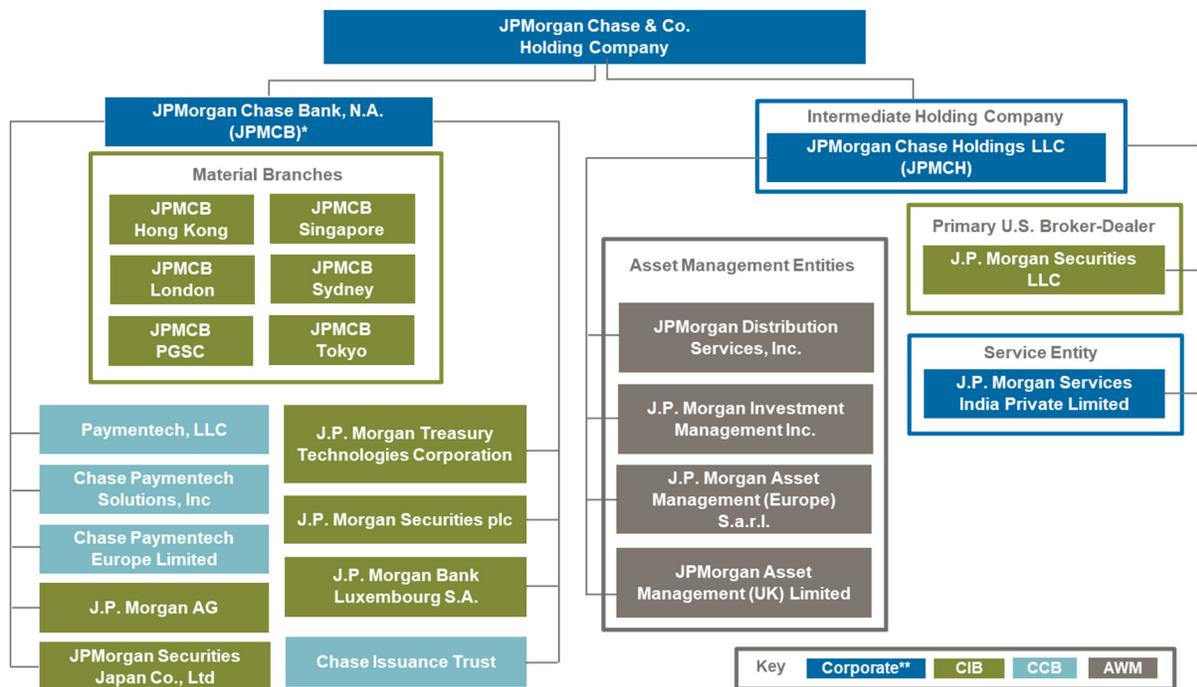
Treasury and CIO is predominantly responsible for measuring, monitoring, reporting and managing the firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the firm's capital plan. The risks managed by Treasury and CIO arise from the activities undertaken by the firm's four major reportable business segments to serve their respective client bases, which generate both on- and off-balance sheet assets and liabilities.

Material Legal Entities

Under the 165(d) Rule, a “material entity” is “a subsidiary or foreign office of the covered company that is significant to the activities of a critical operation or core business line.” For resolution planning purposes, we have identified 24 material entities, which we refer to as Material Legal Entities, including 18 that are legal entities

and six that are branches. The Material Legal Entities and their organizational structure are set out in Figure 19 which reflects the MLE structure on June 30, 2019. Figure 20 and Figure 21 describe the jurisdiction, chain of ownership and entity type for each Material Legal Entity.

Figure 19. Material Legal Entities (as of July 1, 2019)



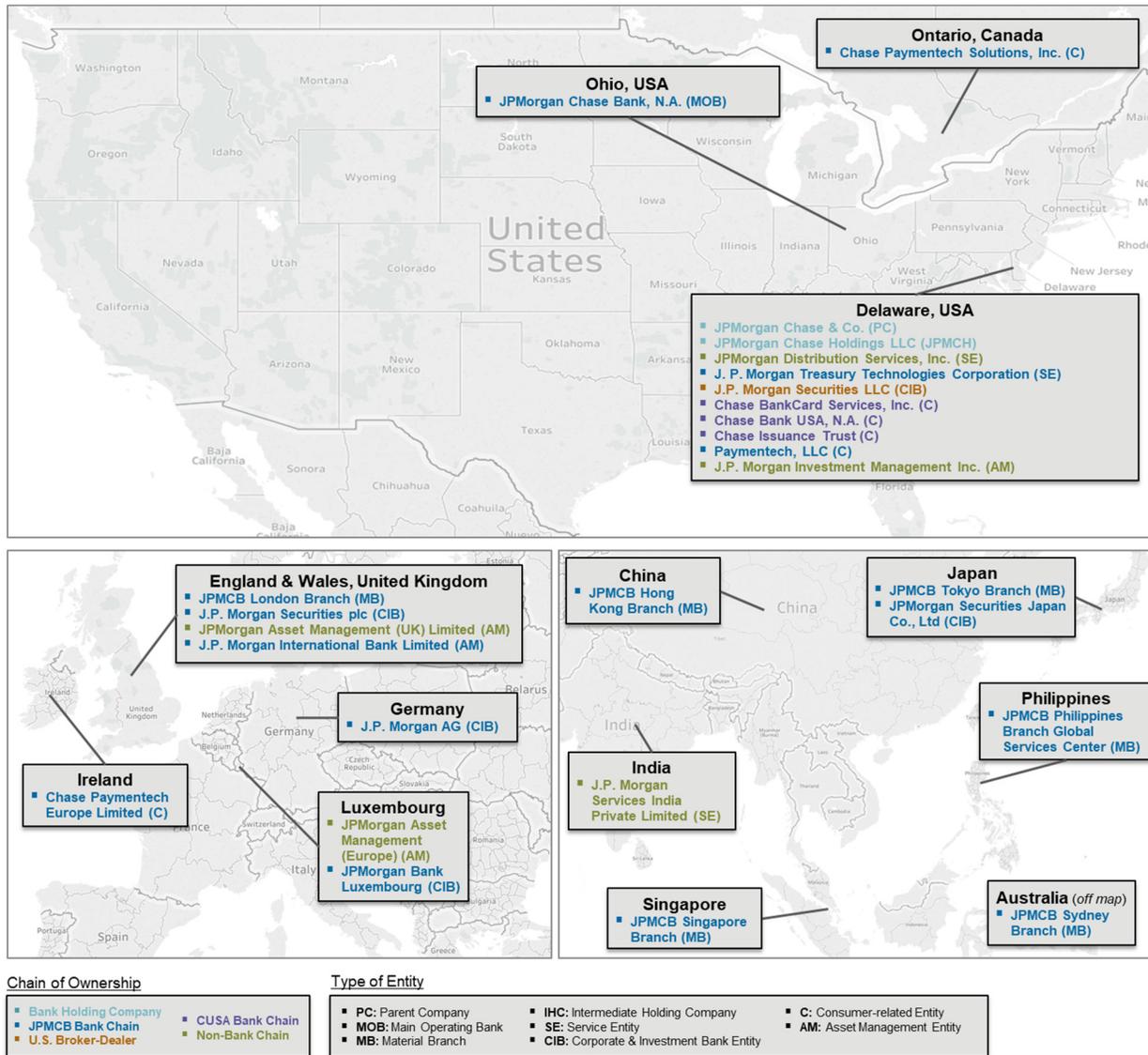
Notes:

An MLE is a subsidiary or branch that is significant to the activities of a Critical Operation or Core Business Line. MLEs reported under the Dodd-Frank Act may differ from the significant legal entity subsidiaries that are reported in JPM Group's SEC filings.

* In January 2019, J.P. Morgan International Bank Limited merged into J.P. Morgan Bank Luxembourg, S.A., a newly scoped MLE. CUSA and CBS merged into JPMorgan Chase Bank in May 2019.

** MLEs designated as Corporate include JPMCH, JPMISPL and lead bank JPMCB which supports all lines of business. Their MLE plans are prepared by the Corporate line of business.

Figure 20. Jurisdiction, Chain of Ownership and Entity Type for Each Material Legal Entity (as of December 31, 2018)



Note: Material Legal Entities are depicted as of December 31, 2018, before the mergers of J.P. Morgan International Bank Limited into JPM Bank Luxembourg and of Chase Bank USA, N.A. and Chase Bankcard Services, Inc. into JPMorgan Chase Bank, N.A.

Figure 21. Material Legal Entities (as of December 31, 2018)

Entity Name	Description
JPMorgan Chase & Co.	The top-tier financial holding company of JPMorgan Chase. This entity is subject to supervision by the Federal Reserve Board.
JPMorgan Chase Holdings LLC	Wholly owned subsidiary of JPMC and a bank holding company. This entity is the holding company for subsidiaries other than JPMCB and its subsidiaries.
JPMorgan Chase Bank, N.A.	Wholly owned national bank subsidiary of JPMC. This entity offers a wide range of banking services to its customers, both domestically and internationally.
JPMCB London Branch	A material foreign branch of JPMCB.
JPMCB Hong Kong Branch	A material foreign branch of JPMCB.
JPMCB PGSC	A material foreign branch of JPMCB.
JPMCB Singapore Branch	A material foreign branch of JPMCB.
JPMCB Sydney Branch	A material foreign branch of JPMCB.
JPMCB Tokyo Branch	A material foreign branch of JPMCB.
J.P. Morgan Services India Private Limited	Indian corporation providing operating services to affiliates through phone center, transaction processing, IT infrastructure and applications development support, accounting and finance, and analytics support.
JPMorgan Distribution Services, Inc.	The U.S. distributor and shareholder servicing agent for JPMorgan Chase's mutual funds.
J.P. Morgan Treasury Technologies Corporation	Provides cash management and trade and treasury management services to JPMCB and its affiliates.
J.P. Morgan AG	A fully licensed bank that manages euro clearing for the firm worldwide, among other activities.
JPMorgan Securities Japan Co., Ltd.	A registered broker-dealer and investment advisor.
J.P. Morgan Securities LLC	A registered U.S. broker-dealer, investment advisor and futures commission merchant. It is the firm's primary broker-dealer in the United States.
J.P. Morgan Securities plc	The principal investment banking entity in EMEA. Its activities include underwriting, trading, brokerage, advisory and prime brokerage services.
Chase BankCard Services, Inc.	Provides Credit Card with operational support (customer service, payment processing, debt collection, etc.) at various locations throughout the country. ¹
Chase Bank USA, N.A.	A chartered national bank in the United States. Conducts activities predominantly related to credit card lending and other forms of consumer lending. ²
Chase Issuance Trust	A special purpose statutory trust which securitizes credit card loan receivables for JPMCB.

¹ Chase BankCard Services, Inc. merged into JPMorgan Chase Bank, N.A. in May 2019.

² Chase Bank USA, N.A. merged into JPMorgan Chase Bank, N.A. in May 2019.

Entity Name	Description
Chase Paymentech Europe Limited	The firm's primary merchant processing entity in Europe.
Chase Paymentech Solutions	The primary merchant processing entity in Canada.
Paymentech, LLC	The firm's primary merchant processing entity in the United States.
JPMorgan Asset Management (Europe) S.à.r.l.	The primary fund management and distribution entity for the Luxembourg mutual fund range.
JPMorgan Asset Management (UK) Limited	The primary U.K. investment advisory entity within J.P. Morgan Asset Management.
J.P. Morgan International Bank Limited	Offers discretionary investment management, brokerage, advisory, custody and banking services, fund marketing and hedge fund advisory to clients in Europe, Latin America and Asia. ³
J.P. Morgan Investment Management Inc.	The primary U.S. investment advisory entity within J.P. Morgan Asset Management.
J.P. Morgan Bank Luxembourg S.A.	Wholly owned indirect subsidiary of JPMCB that historically has been aligned to the Corporate & Investment Bank and is the largest custodian of Luxembourg. ⁴

³ J.P. Morgan International Bank Limited merged into J.P. Morgan Bank Luxembourg S.A. in January 2019.

⁴ J.P. Morgan Bank Luxembourg S.A. has assumed the services provided by J.P. Morgan International Bank Limited following its merger into J.P. Morgan Bank Luxembourg S.A. in January 2019.

Financial Interconnectedness

Parent holding company and subsidiary funding

The vast majority of our interaffiliate funding is coordinated through two Material Legal Entities: IHC and JPMCB. JPMC issues debt and equity securities into the capital markets and uses the proceeds to capitalize JPMCB and IHC. JPMCB funds its own banking activities as well as those of its subsidiaries, branches and bank affiliates. On a going-concern basis, IHC provides funding support to nonbank subsidiaries, including JPMS LLC, both through equity and debt investments and placements.

Our use of a centralized funding framework is designed to optimize liquidity sources and uses, and to ensure flexibility firmwide so that we can allocate liquidity when and whenever it may be needed in the franchise. This centralized framework by design creates financial interconnectedness between and among the firm's Material Legal Entities, in particular as between IHC, JPMCB and their direct and indirect subsidiaries. Figure 22 sets out the primary financial interconnectedness of the firm's Material Legal Entities, as of December 31, 2018.

Figure 22. Interaffiliate Funding (as of December 31, 2018)

Material Legal Entity	Primary Interaffiliate Financial Transaction Counterparties
JPMorgan Chase & Co.	JPMorgan Chase Holdings, LLC
JPMorgan Chase Holdings, LLC	JPMorgan Chase Bank, N.A. J.P. Morgan Securities LLC JPMorgan Chase & Co.
JPMorgan Chase Bank, N.A.	JPMorgan Chase Holdings, LLC Chase Bank USA, N.A. J.P. Morgan Securities LLC Paymentech, LLC
JPMCB London Branch	JPMorgan Chase Bank, N.A. JPMCB Hong Kong Branch JPMorgan Asset Management (UK) Limited Chase Paymentech Europe Limited
JPMCB Hong Kong Branch	JPMorgan Chase Bank, N.A. JPMCB London Branch
JPMCB PGSC	N/A
JPMCB Singapore Branch	JPMorgan Chase Bank, N.A. JPMCB London Branch JPMCB Hong Kong Branch
JPMCB Sydney Branch	JPMCB London Branch JPMorgan Chase Bank, N.A. JPMCB Singapore Branch JPMCB Hong Kong Branch
JPMCB Tokyo Branch	JPMCB London Branch JPMorgan Chase Bank, N.A.
J.P. Morgan Services India Private Limited	N/A
JPMorgan Distribution Services, Inc.	N/A
J.P. Morgan Treasury Technologies Corporation	N/A

Material Legal Entity	Primary Interaffiliate Financial Transaction Counterparties
J.P. Morgan AG	JPMCB London Branch
J.P. Morgan Bank Luxembourg S.A.	JPMorgan Chase Bank, N.A. JPMCB London Branch
JPMorgan Securities Japan Co., Ltd.	JPMCB London Branch
J.P. Morgan Securities LLC	J.P. Morgan Securities plc JPMorgan Chase Bank, N.A.
J.P. Morgan Securities plc	JPMCB London Branch J.P. Morgan International Bank Limited J.P. Morgan Europe Limited
Chase BankCard Services, Inc.	JPMorgan Chase & Co. JPMorgan Chase Bank, N.A.
Chase Bank USA, N.A.	JPMorgan Chase & Co. JPMorgan Chase Bank, N.A.
Chase Issuance Trust	Chase Bank USA, N.A.
Chase Paymentech Europe Limited	N/A
Chase Paymentech Solutions	N/A
Paymentech, LLC	N/A
JPMorgan Asset Management (Europe) S.a.r.l.	N/A
JPMorgan Asset Management (UK) Limited	N/A
J.P. Morgan International Bank Limited	N/A
J.P. Morgan Investment Management Inc.	N/A

The firm's Material Legal Entities obtain capital and funding resources on both an intercompany basis, as well as through public and private issuances of debt and equity instruments to third parties. Additionally, certain of the Material Legal Entities raise funding through the

financing of debt and equity securities. Figure 23 highlights the sources of third-party and intercompany capital and funding sources by Material Legal Entity as of December 31, 2018.

Figure 23. Capital and Funding Resources (as of December 31, 2018)

Material Legal Entity	Third-Party			Intercompany		
	Deposits	Debt	Equity Capital	Deposits	Debt	Equity Capital
JPMorgan Chase & Co.		✓	✓		✓	
JPMorgan Chase Holdings, LLC					✓	✓
JPMorgan Chase Bank, N.A.	✓	✓		✓	✓	✓
JPMCB London Branch	✓	✓		✓	✓	
JPMCB Hong Kong Branch	✓	✓		✓	✓	
JPMCB PGSC						
JPMCB Singapore Branch	✓	✓		✓	✓	
JPMCB Sydney Branch	✓	✓		✓	✓	
JPMCB Tokyo Branch	✓	✓		✓	✓	
J.P. Morgan Services India Private Limited						✓
JPMorgan Distribution Services, Inc.						✓
J.P. Morgan Treasury Technologies Corporation						✓
J.P. Morgan AG	✓	✓		✓	✓	✓
J.P. Morgan Bank Luxembourg S.A.	✓			✓		✓
JPMorgan Securities Japan Co., Ltd.					✓	✓
J.P. Morgan Securities LLC		✓			✓	✓
J.P. Morgan Securities plc	✓	✓		✓	✓	✓
Chase BankCard Services, Inc.						✓
Chase Bank USA, N.A.	✓	✓		✓	✓	✓
Chase Issuance Trust		✓			✓	
Chase Paymentech Europe Limited					✓	✓
Chase Paymentech Solutions						✓
Paymentech, LLC					✓	✓
JPMorgan Asset Management (Europe) S.a.r.l.						✓
JPMorgan Asset Management (UK) Limited						✓
J.P. Morgan International Bank Limited	✓			✓		✓
J.P. Morgan Investment Management Inc.					✓	✓

Interaffiliate Derivative Transactions

JPMCB, through its branches, acts as the primary centralized hedge counterparty for interaffiliate derivative transactions within JPMorgan Chase. Transactions entered into between JPMCB's branches and JPMorgan Chase affiliates are documented under standard ISDA Master Agreement contracts and include terms for collateralization between the parties, specified termination events and the closeout methodology to be applied in the event of a default. As part of its resolution planning process, JPMorgan Chase has removed cross-default provisions from all interaffiliate ISDA Master Agreements.

Financial Interconnectedness in Resolution Event

At any point in time, including at the inception of a resolution event, various borrowings undertaken in the ordinary course will be outstanding between JPMorgan Chase entities. Such borrowings are recorded in the subsidiaries' books and records and captured within the firm's liquidity management systems. During a resolution event, as noted in the description of the firm's Contingency Funding Plan, action plans will be implemented to manage liquidity flow between entities, subject to limits and indicators and in compliance with legal, regulatory and operational restrictions, to optimize each entity's ability to meet its liquidity demands. JPMorgan Chase has outlined the steps that would be taken in the Hypothetical Resolution Scenario for the 2019 Resolution Plan with the Agencies, with detailed, substantiated assumptions. The 2019 Resolution Plan as submitted to the Agencies demonstrates the firm's ability to meet the required net funding outflows generated by the resolution event in compliance with the assumptions prescribed by the Agencies for purposes of the planning for the 2019 Resolution Plan.

Sources of Funds

Management believes that the firm's unsecured and secured funding capacity is sufficient to meet its on- and off-balance sheet obligations.

The firm funds its global balance sheet through diverse sources of funding including a stable deposit franchise as well as secured and unsecured funding in the capital markets. The firm's loan portfolio is funded with a portion of the firm's deposits, through securitizations and, with respect to a portion of the firm's real estate related loans, with secured borrowings from the FHLBs. Deposits in excess of the amount utilized to fund loans are primarily invested by Treasury and CIO in the firm's investment securities portfolio or deployed in cash or other short-term liquid investments based on their interest rate and liquidity risk characteristics. Securities borrowed or purchased under resale agreements and trading assets, debt and equity instruments are primarily funded by the firm's securities loaned or sold under agreements to repurchase, trading liabilities—debt and equity instruments, and a portion of the firm's long-term debt and stockholders' equity. In addition to funding securities borrowed or purchased under resale agreements and trading assets—debt and equity instruments, proceeds from the firm's debt and equity issuances are used to fund certain loans and other financial and non-financial assets, or may be invested in the firm's investment securities portfolio. Refer to the discussion below for additional information relating to deposits, short-term funding, and long-term funding and issuance.

Deposits

Figure 24 below summarizes, by line of business, the period-end and average deposit balances as of and for the years ended December 31, 2018 and 2017.

A key strength of the firm is its diversified deposit franchise, through each of its lines of business, which provides a stable source of funding and limits reliance on the wholesale funding markets. A significant portion of the firm's deposits are consumer and wholesale operating deposits, which are both considered to be stable sources of liquidity. Wholesale operating deposits are considered to be stable sources of liquidity because they are generated from customers that maintain operating service relationships with the firm.

Figure 24. Deposit Balances

Deposits As of or for the year ended December 31, (in millions)	Year ended December 31,			
			Average	
	2018	2017	2018	2017
Consumer & Community Banking	\$ 678,854	\$ 659,885	\$ 670,388	\$ 640,219
Corporate & Investment Bank	482,084	455,883	477,250	447,697
Commercial Banking	170,859	181,512	170,822	176,884
Asset & Wealth Management	138,546	146,407	137,272	148,982
Corporate	323	295	729	3,604
Total Firm	\$ 1,470,666	\$ 1,443,982	\$ 1,456,461	\$ 1,417,386

The table below shows the loan and deposit balances, the loans-to-deposits ratios, and deposits as a percentage of total liabilities, as of December 31, 2018 and 2017.

As of December 31, (in billions except ratios)	2018	2017
Deposits	\$ 1,470.7	\$ 1,444.0
Deposits as a % of total liabilities	62%	63%
Loans	984.6	930.7
Loans-to-deposits ratio	67%	64%

The firm believes that average deposit balances are generally more representative of deposit trends than period-end deposit balances.

Average deposits increased for the year ended December 31, 2018 in CCB and CIB, partially offset by decreases in AWM, Commercial Banking and Corporate.

- The increase in CCB reflects the continuation of growth from new accounts, and in CIB reflects growth in operating deposits in both Treasury Services and Securities Services driven by growth in client activity.

- The decrease in AWM was driven by balance migration predominantly into the firm's investment-related products. The decrease in Commercial Banking was driven by a reduction in non-operating deposits. The decrease in Corporate was predominantly due to maturities of wholesale non-operating deposits, consistent with the firm's efforts to reduce such deposits.

For further information on deposit and liability balance trends, refer to the discussion of the firm's business segment results and the consolidated balance sheets analysis on pages 60-78 and pages 52-53, respectively in the 2018 Annual Report on Form 10-K.

Figure 25 summarizes short-term and long-term funding, excluding deposits, as of December 31, 2018 and 2017, and average balances for the years ended December 31, 2018 and 2017. For additional information, refer to the consolidated balance sheets analysis on pages 52-53 and note 19 in the 2018 Annual Report on Form 10-K.

Figure 25. Short-Term and Long-Term Funding Sources

Sources of funds (excluding deposits)

As of or for the year ended December 31, (in millions)			Average	
	2018	2017	2018	2017
Commercial paper	\$ 30,059	\$ 24,186	\$ 27,834	\$ 19,920
Other borrowed funds ^(a)	8,789	10,727	11,369	10,755
Total short-term unsecured funding^(a)	\$ 38,848	\$ 34,913	\$ 39,203	\$ 30,675
Securities sold under agreements to repurchase ^{(a)(b)}	\$ 171,975	\$ 147,713	\$ 177,629	\$ 173,450
Securities loaned ^{(a)(b)}	9,481	9,211	10,692	12,798
Other borrowed funds ^{(a)(c)}	30,428	16,889	24,320	15,857
Obligations of Firm-administered multi-seller conduits ^(d)	4,843	3,045	3,396	3,206
Total short-term secured funding^(a)	\$ 216,727	\$ 176,858	\$ 216,037	\$ 205,311
Senior notes	\$ 162,733	\$ 155,852	\$ 153,162	\$ 154,352
Trust preferred securities	–	690	471	2,276
Subordinated debt	16,743	16,553	16,178	18,832
Structured notes ^(e)	53,090	45,727	49,640	42,918
Total long-term unsecured funding	\$ 232,566	\$ 218,822	\$ 219,451	\$ 218,378
Credit card securitization ^(d)	\$ 13,404	\$ 21,278	\$ 15,900	\$ 25,933
Other securitizations ^{(d)(f)}	–	–	–	626
Federal Home Loan Bank (“FHLB”) advances	44,455	60,617	52,121	69,916
Other long-term secured funding ^(g)	5,010	4,641	4,842	3,195
Total long-term secured funding	\$ 62,869	\$ 86,536	\$ 72,863	\$ 99,670
Preferred stock ^(h)	\$ 26,068	\$ 26,068	\$ 26,249	\$ 26,212
Common stockholders’ equity^(h)	\$ 230,447	\$ 229,625	\$ 229,222	\$ 230,350

- (a) The prior period amounts have been revised to confirm with the current period presentation.
- (b) Primarily consists of short-term securities loaned or sold under agreements to repurchase.
- (c) Includes FHLB advances with original maturities of less than one year of \$11.4 billion as of December 31, 2018; there were no FHLB advances with original maturities of less than one year as of December 31, 2017.
- (d) Included in beneficial interests issued by consolidated variable interest entities on the firm’s consolidated balance sheets.
- (e) Includes certain TLAC-eligible long-term unsecured debt issued by JPMC.
- (f) Other securitizations includes securitizations of student loans. The firm deconsolidated the student loan securitization entities in the second quarter of 2017 as the firm no longer had a controlling financial interest in these entities as a result of the sale of the student loan portfolio. The firm’s wholesale businesses also securitize loans for client-driven transactions, which are not considered to be a source of funding for the firm and are not included in the table.
- (g) Includes long-term structured notes which are secured.
- (h) For additional information on preferred stock and common stockholders’ equity refer to the capital risk management section on pages 85-94, consolidated statements of changes in stockholders’ equity, note 20 and note 21 in the 2018 Annual Report on Form 10-K.

Short-Term Funding

The firm’s sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. These instruments are secured predominantly by high-quality securities collateral, including government issued debt and agency mortgage-backed securities, and constitute a significant portion of the federal funds purchased and securities loaned or sold under repurchase agreements on the consolidated balance sheets. The increase at December 31, 2018, compared to December 31, 2017, was primarily due to higher client-driven market-making activities and higher secured financing of trading assets-debt and equity instruments in CIB. The balances associated with securities loaned or sold under agreements to repurchase fluctuate over time due to customers’ investment and financing activities; the firm’s demand for financing; the ongoing management of the mix of the firm’s liabilities, including its secured and unsecured financing (for both the investment securities and market-making portfolios); and other market and portfolio factors.

The firm’s sources of short-term unsecured funding primarily consist of issuance of wholesale commercial paper. The increase in commercial paper was due to higher net issuance primarily for short-term liquidity management.

Long-Term Funding and Issuance

Long-term funding provides additional sources of stable funding and liquidity for the firm. The firm’s long-term funding plan is driven primarily by expected client activity, liquidity considerations and regulatory requirements, including TLAC. Long-term funding objectives include maintaining diversification, maximizing market access and optimizing funding costs. The firm evaluates various funding markets, tenors and currencies in creating its optimal long-term funding plan.

The significant majority of the firm’s long-term unsecured funding is issued by JPMC to provide maximum flexibility in support of both bank and nonbank subsidiary funding needs. JPMC advances substantially all net funding proceeds to its subsidiary, the IHC. The IHC does not issue debt to external counterparties. The following table summarizes long-term unsecured issuance and maturities or redemptions for the years ended December 31, 2018 and 2017. For additional information, see note 19 in the 2018 Annual Report on Form 10-K.

Figure 26. Long-Term Unsecured Funding

Long-term unsecured funding				
Year ended December 31,	2018		2017	
(Notional in millions)	Parent Company ^(a)		Subsidiaries ^(a)	
Issuance				
Senior notes issued in the U.S. market	\$ 22,000	\$ 21,250	\$ 9,562	\$ 62
Senior notes issued in non-U.S. markets	1,502	2,220	—	—
Total senior notes	23,502	23,470	9,562	62
Structured notes ^(a)	2,444	2,516	25,410	26,524
Total long-term unsecured funding - issuance	\$ 25,946	\$ 25,986	\$ 34,972	\$ 26,586
Maturities/redemptions				
Senior notes	\$ 19,141	\$ 20,971	\$ 4,466	\$ 1,366
Subordinated debt	136	3,401	—	3,500
Structured notes	2,678	5,440	15,049	17,141
Total long-term unsecured funding - maturities/redemptions	\$ 21,955	\$ 29,812	\$ 19,515	\$ 22,007

(a) Includes certain TLAC-eligible long-term unsecured debt issued by the Parent Company.
 (b) The prior period amounts have been revised to conform with the current period presentation.

Figure 27. Long-Term Secured Funding

Year ended December 31, (in millions)	Issuance		Maturities/Redemptions	
	2018	2017	2018	2017
Credit card securitization	\$ 1,396	\$ 1,545	\$ 9,250	\$ 11,470
Other securitizations ^(a)	—	—	—	55
FHLB advances	9,000	—	25,159	18,900
Other long-term secured funding ^(b)	377	2,354	289	731
Total long-term secured funding	\$ 10,773	\$ 3,899	\$ 34,698	\$ 31,156

(a) Other securitizations includes securitizations of student loans. The firm deconsolidated the student loan securitization entities in the second quarter of 2017 as it no longer had a controlling financial interest in these entities as a result of the sale of the student loan portfolio.
 (b) Includes long-term structured notes which are secured.

The firm raises secured long-term funding through securitization of consumer credit card loans and advances from the FHLBs. The following table summarizes the securitization issuance and FHLB advances and their respective maturities or redemptions for the years ended December 31, 2018 and 2017.

The firm’s wholesale businesses also securitize loans for client-driven transactions; those client-driven loan securitizations are not considered to be a source of funding for the firm and are not included in the table above. For further description of the client-driven loan securitizations, refer to note 14 of the 2018 Annual Report on Form 10-K.

Overview of Capital Management Policy

Capital

A strong capital position is essential to JPMorgan Chase's business strategy and competitive position. Our capital management framework is designed to facilitate a rapid and orderly wind-down of JPMC in the event of its resolution under the U.S. Bankruptcy Code.

Our approach to capital management is to ensure that JPMorgan Chase operates with resiliency throughout the business cycle, maintains long-term stability, serves as a source of strength to subsidiaries and maintains sufficient capital resources, appropriately allocated to its Material Legal Entities, to operate throughout resolution. JPMorgan Chase's capital management framework consists of internal minimum capital targets and strong capital governance processes that include a series of capital monitoring triggers at both the JPMC- and MLE-level.

Resolution Capital Adequacy and Positioning and Prepositioned Capital Resources

JPMorgan Chase has established a RCAP and RCEN calculation methodology for the purposes of meeting the 165(d) Rule.

The RCAP and RCEN methodology establishes a Resolution trigger for JPMC. It also establishes a prepositioned resources and RCEN calculation methodology for the Material Legal Entities.

In addition to monitoring RCAP at the consolidated JPMorgan Chase level, it is necessary to consider the appropriate level of loss-absorbing resources to protect against losses at the Material Legal Entity level. Resources available to a Material Legal Entity consist of:

- the loss-absorbing or prepositioned resources in place at that entity, which is the capital on the Material Legal Entity's balance sheet and eligible debt issued to JPMCB, our IHC or an immediate parent (including unfunded commitments), and
- contributable capital resources available at JPMCB or our IHC, which are not on the entity's balance sheet but that may be used to increase the entity's on-balance sheet loss-absorbing resources, if needed.

A Material Legal Entity's prepositioned capital resources have been defined based on instruments that would

qualify under external TLAC requirements, and comprises:

- CET1, as defined by U.S. or local Basel capital rule, as applicable, or other equivalent,
- preferred equity issued either directly to our IHC or directly to JPMCB for subsidiaries of JPMCB, and
- eligible intercompany debt issued either to an immediate parent or directly to our IHC or directly to JPMCB for subsidiaries of JPMCB, which is plain vanilla and unsecured.

Resolution Capital Execution Need

RCEN is calculated for each individual Material Legal Entity, including JPMorgan Chase at the consolidated level, in order to determine an appropriate amount of prepositioned capital resources required by each such entity. RCEN is made up of two components:

- the minimum required for regulated Material Legal Entities to be considered "well capitalized" or for unregulated Material Legal Entities "investment grade" or "financially sound," and
- the amount of capital depletion due to losses that JPMorgan Chase estimates would occur during the period after JPMC has commenced bankruptcy proceedings.

JPMorgan Chase requires that each Material Legal Entity maintain at all times prepositioned capital resources in excess of its calculated total RCEN requirement.

Contingency Capital Plan

The firm's contingency capital plan, which is approved by the firmwide ALCO and the DRPC, establishes the capital management framework for the firm and specifies the principles underlying the firm's approach towards capital management in normal economic times and during stress. The contingency capital plan defines how the firm calibrates its targeted capital levels and meets minimum capital requirements, monitors the ongoing appropriateness of planned distributions and sets out the capital contingency actions that must be taken or considered at various levels of capital depletion during a period of stress.

Overview of Liquidity Management Policy

Liquidity

We have significantly strengthened the firm's liquidity position, while we continued to enhance our funding and liquidity management framework in conjunction with the evolving regulatory requirements related to resolution planning. We have enhanced our capabilities and implemented a comprehensive framework for estimating MLE liquidity needs prior to, and during resolution, including the development of enhanced RLAP and RLEN frameworks. The enhanced liquidity frameworks also detail material intercompany flows in each Material Legal Entity by counterparty, with product-level breakouts and daily cash flows for 365 days. Among other enhancements, we have positioned liquidity at Material Legal Entities, in many cases through new term funding arrangements, and we executed actions to simplify material intercompany funding relationships and reduce interconnectedness. We have also built a liquidity buffer at IHC to provide additional resiliency and flexibility in meeting resolution liquidity needs. We believe that these enhancements, together with the significant increase in JPMC's excess liquidity resources and the strengthened funding and liquidity management framework, have addressed Agency feedback.

Resolution Liquidity Adequacy and Positioning Framework

RLAP has been integrated into the firm's day-to-day liquidity risk management approach to sizing and managing liquidity needs by aligning JPM Stress to RLAP. We have enhanced our RLAP framework by estimating the stand-alone liquidity requirements as well as the resulting net liquidity position of each Material Legal Entity under stress, prior to resolution. In doing so, we incorporated identification and quantification of potential frictions at Material Legal Entities, including those associated with Material Legal Entities positioning liquidity resources at other Material Legal Entities. Additionally, we positioned a liquid asset buffer centrally at IHC to support potential liquidity shortfalls at Material Legal Entities. In doing so, we have considered daily contractual mismatches between inflows and outflows, daily movement of cash and collateral for intercompany transactions, daily stressed liquidity flows and trapped liquidity. The enhanced RLAP framework is also supported by a detailed analysis of the

interconnectedness of JPMCB London Branch, JPMS plc and JPMCB New York Branch.

RLAP Framework Assumptions and Analysis

The baseline for the enhanced RLAP framework is the JPM Liquidity Stress Framework, which is designed to estimate potential cash outflows under severe stress and ensure that the firm has sufficient liquidity resources to meet such cash outflows throughout the stress horizon. The JPM Liquidity Stress Framework assumes that a severe stress event results in JPMorgan Chase issuer credit ratings being downgraded by all three major rating agencies to one notch below investment grade on the first day of stress. This leads to a severe liquidity crisis owing to a loss of wholesale and retail funding, additional collateral margin postings, customer and counterparty outflows, a rapid decline in the trading value of JPMC's debt and other market factors. The framework also assumes that JPMorgan Chase would suffer severe deposit attrition, draws on unfunded lending commitments and significant derivative outflows, and would be unable to refinance maturing wholesale funding obligations, except for secured funding or lending transactions backed by high-quality assets.

The RLAP framework includes a Restricted Liquidity Framework for funding frictions, which assesses jurisdictional, operational, counterparty and tax frictions. The Restricted Liquidity Framework is used to identify liquidity that could potentially be trapped within JPMorgan Chase legal entities. JPMC has created an enhanced Restricted Liquidity Framework to assess liquidity transfer restrictions at the MLE level (including between branches of JPMCB).

The enhanced RLAP framework measures peak net funding outflows for each Material Legal Entity on a stand-alone basis and includes an enhanced level of granularity, reflecting daily cash flows throughout the Stress Period, as well as a product-level breakout of third-party and intercompany flows. Intercompany transactions are treated similarly to third-party transactions, with no fungibility of surplus liquidity across Material Legal Entities (including between branches of JPMCB). The enhanced RLAP framework provides an estimate of the amount of liquidity resources necessary to effectively meet the anticipated cumulative net peak funding outflows (inclusive of restricted liquidity); and after taking into consideration liquidity prepositioned at

the Material Legal Entity, any additional liquidity buffer that may be required to be maintained at IHC to support any liquidity shortfalls within the Material Legal Entities. The RLAP estimates reflect a conservative view of available sources of liquidity.

Material Legal Entities will primarily rely on prepositioned liquidity resources at the MLE level, and if necessary, the central liquidity buffer at IHC.

Reduction of Intercompany Funding Frictions

In conjunction with enhancements to the Restricted Liquidity Framework noted above, we also simplified material intercompany funding relationships and financial interconnectedness, thereby mitigating the potential risk of interaffiliate funding frictions. We completed actions to minimize potential intercompany funding frictions, including:

- eliminated certain intercompany commitments and replaced them with term unsecured funding;
- discontinued certain intercompany sweep arrangements;
- increased the tenor for certain unsecured and secured intercompany transactions;
- reduced interconnectedness by reducing or eliminating pass-through entities between the ultimate lender and ultimate borrower for certain intercompany transactions;
- transferred certain JPMC deposits and other JPMCB subsidiary demand deposit accounts from JPMCB London Branch to JPMCB New York Branch;
- continued legal entity simplification efforts, which have had the effect of significantly reducing intercompany funding flows; and
- distributed dividends from certain of JPMCB's non-MLE subsidiaries to JPMCB.

Enhancement of Resolution Liquidity Execution Need Framework

We enhanced the RLEN framework and process to estimate the stand-alone liquidity requirements to execute the Preferred Strategy, and the resulting net liquidity position of each Material Legal Entity in resolution, by:

- providing greater detail on the estimate of:
 - the minimum operating liquidity required by each Material Legal Entity; and
 - the peak daily funding needs of each Material Legal Entity following Resolution Weekend;
- reflecting the interconnectedness and potential funding frictions between various Material Legal Entities; and
- incorporating triggers into the Limit and Indicators Policy and the Contingency Funding Plan for the provision of liquidity support under the Support Agreement and for voting by the JPMC Board on whether to commence bankruptcy proceedings for JPMC under the amended JPMC Governance Playbook.

A description of our enhanced RLEN framework is set forth below. We believe that our enhanced RLEN framework, together with these related actions, addressed Agency feedback. We will use our enhanced RLEN framework on an ongoing basis.

RLEN Framework Assumptions and Analysis

The enhanced RLEN framework uses as a baseline the RLAP framework, subject to certain additional, resolution-specific modifications.

The estimates used in the RLEN framework reflect the minimum liquidity required at each Material Legal Entity to execute the Preferred Strategy throughout the Resolution Period and, thus, inform the timing of when JPMC should file for bankruptcy. The minimum liquidity required at each Material Legal Entity is calculated as the sum of:

- the minimum operating liquidity required to ensure that the Material Legal Entity can operate without disruption throughout the Resolution Period,

including net operating expenses, intraday funding requirements and restricted liquidity;

- the liquidity required to ensure the Material Legal Entity can undertake an orderly wind-down of its derivatives and trading assets, where applicable; and
- the Material Legal Entity's projected peak cumulative net funding outflows during the Resolution Period.

RLEN identifies the peak cumulative net funding needed to stabilize each Material Legal Entity after JPMC files for bankruptcy. We currently do not assume access to third-party unsecured funding markets throughout the Resolution Period in our enhanced RLEN framework.

As part of our resolution liquidity forecasting, we provide daily views of estimated RLEN cash flows (consistent with the enhanced framework) for 365 days, in addition to the Runway Period.

The enhanced Restricted Liquidity Framework used in the RLAP framework is also used in the RLEN framework. The framework primarily applies to

intercompany unsecured and secured transactions, commitments and derivatives, including transactions between Material Legal Entities and non-Material Legal Entities, and all other significant transactions. We implemented an additional third-party friction analysis to capture other funding frictions in the estimation of the minimum operating liquidity required by each Material Legal Entity.

Liquidity Contingency Funding Plan

The firm's contingency funding plan, which is approved by the firmwide ALCO and the DRPC, is a compilation of procedures and action plans for managing liquidity through stress events. The contingency funding plan incorporates the limits and indicators set by the Liquidity Risk Oversight group. These limits and indicators are reviewed regularly to identify emerging risks or vulnerabilities in the firm's liquidity position. The contingency funding plan identifies the alternative contingent funding and liquidity resources available to the firm and its legal entities in a period of stress.

Liquidity Coverage Ratio and High Quality Liquid Assets

The Liquidity Coverage Ratio, or LCR, rule requires the firm to maintain an amount of unencumbered HQLA that is sufficient to meet its estimated total net cash outflows over a prospective 30 calendar-day period of significant stress. HQLA is the amount of liquid assets that qualify for inclusion in the LCR. HQLA primarily consist of unencumbered cash and certain high quality liquid securities as defined in the LCR rule.

Under the LCR rule, the amounts of HQLA held by JPMCB (and, before its merger with and into JPMCB, CUSA) that are in excess of each entity's stand-alone 100% minimum LCR requirement, and that are not transferable to nonbank affiliates, must be excluded from the firm's reported HQLA. The LCR is required to be a minimum of 100%.

On December 19, 2016, the Federal Reserve published final LCR public disclosure requirements for certain BHCs and nonbank financial companies. Beginning with the second quarter of 2017, the firm disclosed its average LCR for the quarter and the key quantitative components of the average LCR, along with a qualitative discussion of material drivers of the ratio, changes over time, and causes of such changes. The firm will continue to make available its U.S. LCR Disclosure report on a quarterly basis on the firm's website at: <https://investor.shareholder.com/jpmorganchase/basel.cfm>.

The following table summarizes the firm's average LCR for the three months ended December 31, 2018, based on the firm's current interpretation of the finalized LCR framework.

Figure 28. High Quality Liquid Assets

(\$ in millions)	Three months ended		
	December 31, 2018	September 31, 2018	December 31, 2017
HQLA			
Eligible Cash ^(a)	\$297,069	\$344,660	\$370,126
Eligible Securities ^{(b)(c)}	\$232,201	\$190,349	\$189,955
Total HQLA^(d)	\$529,270	\$535,009	\$560,081
Net cash outflows	\$467,704	\$466,803	\$472,078
LCR	113%	115%	119%
Net excess HQLA^(d)	\$61,566	\$68,206	\$88,003

(a) Represents cash on deposit at central banks, primarily Federal Reserve Banks.

(b) Predominantly U.S. Treasuries, U.S. agency mortgage-backed securities, and sovereign bonds net of applicable haircuts under the LCR rules.

(c) HQLA eligible securities may be reported in securities borrowed or purchased under resale agreements, trading assets, or investment securities on the firm's consolidated balance sheets.

(d) Excludes average excess HQLA at JPMCB and CUSA that are not transferable to nonbank affiliates.

For the three months ended December 31, 2018, the firm's average LCR was 113%, compared with an average of 115% for the three months ended September 30, 2018, due to a decrease in the average amount of reportable HQLA. The firm's average LCR may fluctuate from period to period due to changes in its HQLA and estimated net cash outflows under the LCR as a result of ongoing business activity. The firm's HQLA are expected to be available to meet its liquidity needs in a time of stress.

As of December 31, 2018, in addition to assets reported in the firm's HQLA under the LCR rule, the firm had approximately \$226 billion of unencumbered marketable securities, such as equity securities and fixed income debt securities, available to raise liquidity if required. This includes HQLA-eligible securities included as part of the excess liquidity at JPMCB that are not transferable to nonbank affiliates.

As of December 31, 2018, the firm also had approximately \$276 billion of available borrowing capacity at various FHLBs, discount windows at the Federal Reserve Banks and various other central banks as a result of collateral pledged by the firm to such banks. This borrowing capacity excludes the benefit of securities reported in the firm's HQLA or other unencumbered securities that are currently pledged at the Federal Reserve Bank discount windows. Although available, the firm does not view the borrowing capacity at Federal Reserve Bank discount windows and the various other central banks as a primary source of liquidity.

Derivatives and Hedging Activities

Description of Derivatives and Hedging Activities

Derivative Instruments

Derivative contracts derive their value from underlying asset prices, indices, reference rates, other inputs or a combination of these factors and may expose counterparties to risks and rewards of an underlying asset or liability without having to initially invest in, own or exchange the asset or liability. JPMorgan Chase makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. Predominantly all of the firm's derivatives are entered into for market-making or risk management purposes.

Market-Making Derivatives

The majority of the firm's derivatives are entered into for market-making purposes. Clients use derivatives to mitigate or modify interest rate, credit, foreign exchange, equity and commodity risks. The firm actively manages the risks from its exposure to these derivatives by entering into other derivative contracts or by purchasing or selling other financial instruments that partially or fully offset the exposure from client derivatives.

Risk Management Derivatives

The firm manages certain market and credit risk exposures using derivative instruments, including derivatives in hedge accounting relationships and other derivatives that are used to manage risks associated with specified assets and liabilities.

The firm generally uses interest rate contracts to manage the risk associated with changes in interest rates. Fixed-rate assets and liabilities appreciate or depreciate in market value as interest rates change. Similarly, interest income and expense increases or decreases as a result of variable-rate assets and liabilities resetting to current market rates, and as a result of the repayment and subsequent origination or issuance of fixed-rate assets and liabilities at current market rates. Gains and losses on the derivative instruments related to these assets and liabilities are expected to substantially offset this variability.

Foreign currency forward contracts are used to manage the foreign exchange risk associated with certain foreign currency-denominated (i.e., non-U.S. dollar) assets and liabilities and forecasted transactions, as well as the firm's net investments in certain non-U.S. subsidiaries or

branches whose functional currencies are not the U.S. dollar. As a result of fluctuations in foreign currencies, the U.S. dollar equivalent values of the foreign currency denominated assets and liabilities, or the forecasted revenues or expenses, increase or decrease. Gains or losses on the derivative instruments related to these foreign currency denominated assets or liabilities, or forecasted transactions, are expected to substantially offset this variability.

Commodities contracts are used to manage the price risk of certain commodities inventories. Gains or losses on these derivative instruments are expected to substantially offset the depreciation or appreciation of the related inventory.

Credit derivatives are used to manage the counterparty credit risk associated with loans and lending-related commitments. Credit derivatives compensate the purchaser when the entity referenced in the contract experiences a credit event, such as bankruptcy or a failure to pay an obligation when due. Credit derivatives primarily consist of credit default swaps. For a further discussion of credit derivatives, refer to the discussion in the credit derivatives section on pages 195-197 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

For more information about risk management derivatives, refer to the risk management derivatives gains and losses tables and the hedge accounting gains and losses tables on pages 192-195 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

Derivative Counterparties and Settlement Types

The firm enters into OTC derivatives, which are negotiated and settled bilaterally with the derivative counterparty. The firm also enters into, as principal, certain exchange-traded derivatives such as futures and options, and OTC-cleared derivative contracts with central clearing parties. Exchange-traded derivatives contracts are generally standardized contracts traded on an exchange and cleared by the central clearing party, which is the firm's counterparty from the inception of the transactions. OTC-cleared derivatives are traded on a bilateral basis and then novated to the central clearing party for clearing.

Derivative Clearing Services

The firm provides clearing services for clients in which the firm acts as a clearing member at certain derivative exchanges and clearing houses. The firm does not reflect the clients' derivative contracts in its Consolidated Financial Statements. For further information on the firm's clearing services, please refer to note 27 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

For information on the accounting treatment of derivatives, please refer to JPMorgan Chase's 2018 Annual Report on Form 10-K and other JPMorgan Chase & Co. 1934 Act reports.

Notional Amount of Derivative Contracts

The following table summarizes the notional amount of derivative contracts outstanding as of December 31, 2018 and 2017.

Figure 29. Derivative Contracts

December 31, (in billions)	Notional Amounts ^(b)	
	2018	2017
Interest rate contracts		
Swaps	\$21,763	\$21,043
Futures and forwards	3,562	4,904
Written options	3,997	3,576
Purchased options	4,322	3,987
Total interest rate contracts	33,644	33,510
Credit derivatives ^(a)	1,501	1,522
Foreign exchange contracts		
Cross-currency swaps	3,548	3,953
Spot, futures and forwards	5,871	5,923
Written options	835	786
Purchased options	830	776
Total foreign exchange contracts	11,084	11,438
Equity contracts		
Swaps	346	367
Futures and forwards	101	90
Written options	528	531
Purchased options	490	453
Total equity contracts	1,465	1,441
Commodity contracts		
Swaps	134	133 ^(c)
Spot, futures and forwards	156	168
Written options	135	98
Purchased options	120	93
Total commodity contracts	545	492 ^(c)
Total derivative notional amounts	\$48,239	\$48,403 ^(c)

(a) For more information on volumes and types of credit derivative contracts, refer to the credit derivatives discussion on pages 195-197 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

(b) Represents the sum of gross long and gross short third-party notional derivative contracts.

(c) The prior period amounts have been revised to conform with the current period presentation.

While the notional amounts disclosed above give an indication of the volume of the firm's derivatives activity, the notional amounts significantly exceed, in the firm's view, the possible losses that could arise from such transactions. For most derivative contracts, the notional amount is not exchanged; it is used simply as a reference to calculate payments.

For further details on the impact of derivatives on the consolidated statements of income and balance sheet, please refer to JPMorgan Chase's 2018 Annual Report on Form 10-K and other JPMorgan Chase & Co. 1934 Act reports.

Operational Interconnectedness

The firm's Material Legal Entities enter into transactions with each other for services and financing in the ordinary course of business.

To the extent possible, these services and functions are centralized to maximize efficiency and economies of scale, to facilitate risk management oversight, and to ensure an effective organizational and management design. These centralized functions inherently and by design result in operational interconnectedness amongst and between our Material Legal Entities.

The majority of the shared services provided among legal entities are provided by the JPMCB Bank Chain, including our Critical Services.

Shared services, including Critical Shared Services, provided by one Material Legal Entity to another Material Legal Entity are governed by interaffiliate service agreements, not unlike standard third-party vendor contracts.

These interaffiliate service agreements specify the contractual terms and conditions for providing the products, services and operations. JPMorgan Chase's interaffiliate service agreements contain appropriate contractual provisions to ensure that interaffiliate services continue in a resolution event and are not immediately terminated, thereby ensuring operational continuity.

JPMorgan Chase is organized whereby the majority of its Critical Shared Services are concentrated in the JPMCB Bank Chain, as well as its nonbank, self-sustaining service company, JPMSIPL.

Operations that do not qualify as bank eligible, such as certain broker-dealer activities, cannot be housed in banking entities. Any such Critical Shared Services that are not bank eligible are largely undertaken in the U.S. broker-dealer Material Legal Entities.

Importantly, the firm's main operating bank entity, JPMCB, acts as the main contracting agent firmwide. This results in the majority of JPMorgan Chase's third-party vendor contracts for its Critical Services being centralized in JPMCB, its branches and subsidiaries. Furthermore, JPMCB is a central repository and manager of the majority of the firmwide technology, real estate, personnel and other assets for the firm's Critical Services.

Material Legal Entity Operational Interconnectivity

Figure 30 illustrates the operational interconnectivity of JPMorgan Chase's Material Legal Entities. As expected, JPMCB is the primary provider of interaffiliate services and the main receiver of interaffiliate services.

Figure 30. Summary of Interaffiliate Services (as of December 31, 2018)

Material Legal Entity	Primarily Receives Interaffiliate Services From	Top 5 Services Received	Primarily Provides Interaffiliate Services To	Top 5 Services Provided
JPMorgan Chase & Co	JPMorgan Chase Bank, National Association	Overhead & Miscellaneous	JPMorgan Chase Bank, National Association J.P. Morgan Securities LLC J.P. Morgan Investment Management Inc. Chase BankCard Services, Inc. Chase Bank USA, National Association J.P. Morgan Securities PLC Paymentech, LLC J.P. Morgan Treasury Technologies Corp. JPMorgan Asset Management (UK) Limited	Training and Human Resources
JPMorgan Chase Holdings LLC	JPMorgan Chase Bank, National Association	Rent (Square Footage) Allocations		Risk Management Services
JPMorgan Chase Bank, National Association	JPMorgan Services India Private Limited JPMorgan Chase & Co J.P. Morgan Securities LLC J.P. Morgan Treasury Technologies Corp. Chase Bank USA, National Association J.P. Morgan International Bank Limited J.P. Morgan Securities PLC JPMorgan Securities Japan Co., Ltd. J.P. Morgan Investment Management Inc. J.P. Morgan AG Chase BankCard Services, Inc. J.P. Morgan Bank Luxembourg S.A. Paymentech, LLC JPMorgan Asset Management (UK) Limited	Offshore Operational Services	J.P. Morgan Securities LLC J.P. Morgan Securities PLC Chase Bank USA, National Association Chase BankCard Services, Inc. J.P. Morgan Investment Management Inc. Paymentech, LLC J.P. Morgan Bank Luxembourg S.A. JPMorgan Securities Japan Co., Ltd. JPMorgan Asset Management (UK) Limited J.P. Morgan International Bank Limited J.P. Morgan AG J.P. Morgan Treasury Technologies Corp. JPMorgan Chase & Co JPMorgan Asset Management (Europe) S.a r.l. Chase Paymentech Solutions JPMorgan Distribution Services, Inc. JPMorgan Chase Holdings LLC Chase Paymentech Europe Limited	Application Software Development and Production Support

Overview of JPMorgan Chase

Operational Interconnectedness

Material Legal Entity	Primarily Receives Interaffiliate Services From	Top 5 Services Received	Primarily Provides Interaffiliate Services To	Top 5 Services Provided
JPMorgan Services India Private Limited			JPMorgan Chase Bank, National Association J.P. Morgan Investment Management Inc. JPMorgan Asset Management (UK) Limited J.P. Morgan Securities LLC JPMorgan Securities Japan Co., Ltd. J.P. Morgan Securities PLC	Offshore Operational Services
J.P. Morgan Securities LLC	JPMorgan Chase Bank, National Association JPMorgan Chase & Co J.P. Morgan Securities PLC JPMorgan Securities Japan Co., Ltd. J.P. Morgan Treasury Technologies Corp. JPMorgan Services India Private Limited J.P. Morgan International Bank Limited	Application Software Development and Production Support	JPMorgan Chase Bank, National Association	Overhead & Miscellaneous
J.P. Morgan Securities PLC	JPMorgan Chase Bank, National Association J.P. Morgan Securities LLC J.P. Morgan AG JPMorgan Securities Japan Co., Ltd. JPMorgan Chase & Co J.P. Morgan Treasury Technologies Corp. JPMorgan Services India Private Limited	Application Software Development and Production Support	JPMorgan Chase Bank, National Association J.P. Morgan Securities LLC J.P. Morgan AG JPMorgan Securities Japan Co., Ltd.	Overhead & Miscellaneous
JPMorgan Securities Japan Co., Ltd.	JPMorgan Chase Bank, National Association	Application Software Development and Production Support	JPMorgan Chase Bank, National Association	Application Software Development and Production Support
J.P. Morgan Treasury Technologies Corp.	JPMorgan Chase Bank, National Association	Technology Hardware and Infrastructure	JPMorgan Chase Bank, National Association	Application Software Development and Production Support
J.P. Morgan AG	JPMorgan Chase Bank, National Association	Treasury Operations	JPMorgan Chase Bank, National Association	Sales Distribution Channel Support
Chase Bank USA, National Association	JPMorgan Chase Bank, National Association	Application Software Development and Production Support	JPMorgan Chase Bank, National Association	Rent (Square Footage) Allocations
Chase BankCard Services, Inc.	JPMorgan Chase Bank, National Association	Overhead & Miscellaneous	JPMorgan Chase Bank, National Association	Credit Card Issuance & Processing

Overview of JPMorgan Chase

Operational Interconnectedness

Material Legal Entity	Primarily Receives Interaffiliate Services From	Top 5 Services Received	Primarily Provides Interaffiliate Services To	Top 5 Services Provided
Paymentech, LLC	JPMorgan Chase Bank, National Association	Application Software Development and Production Support	Chase Paymentech Europe Limited	Credit Card Servicing
Chase Paymentech Solutions	Paymentech, LLC	Credit Card Servicing		
Chase Paymentech Europe Limited	Paymentech, LLC	Credit Card Servicing		
J.P. Morgan Investment Management Inc.	JPMorgan Chase Bank, National Association JPMorgan Services India Private Limited JPMorgan Chase & Co JPMorgan Asset Management (UK) Limited J.P. Morgan International Bank Limited J.P. Morgan Securities LLC	Technology Hardware and Infrastructure	JPMorgan Chase Bank, National Association JPMorgan Asset Management (UK) Limited J.P. Morgan International Bank Limited	Application Software Development and Production Support
JPMorgan Distribution Services, Inc.	JPMorgan Chase Bank, National Association	AM Investment Management Activities		
JPMorgan Asset Management (Europe) S.a r.l.	JPMorgan Chase Bank, National Association	Rent (Square Footage) Allocations		
JPMorgan Asset Management (UK) Limited	JPMorgan Chase Bank, National Association J.P. Morgan Investment Management Inc. JPMorgan Services India Private Limited JPMorgan Chase & Co J.P. Morgan Securities LLC	Rent (Square Footage) Allocations	JPMorgan Chase Bank, National Association J.P. Morgan Investment Management Inc.	Overhead & Miscellaneous
J.P. Morgan International Bank Limited	JPMorgan Chase Bank, National Association	Rent (Square Footage) Allocations	JPMorgan Chase Bank, National Association	Application Software Development and Production Support
J.P. Morgan Bank Luxembourg S.A.	JPMorgan Chase Bank, National Association	Application Software Development and Production Support	JPMorgan Chase Bank, National Association	Application Software Development and Production Support

Regardless of the resolution strategy, the capital and liquidity management frameworks ensure that the funding needed to support the required services is both available and provided to the Material Legal Entities needed to undertake the activities necessary to directly and indirectly support JPMorgan Chase’s Critical Services.

Material Legal Entity Connectivity by Shared Services

While the section above highlights the firm’s operational interconnectedness at the MLE level, this section highlights the operational interconnectedness at the shared service level. As expected, JPMCB, including its MLE branches, is the main provider of shared services, followed by JPMSIPL.

Excluding rent and management overhead, the top five shared services include:

- technology services;
- financial services and global finance operations;
- corporate function operations and support (e.g., legal, risk and compliance services);
- transaction services; and
- offshore operational services.

Figure 31 highlights the operational interconnectedness at the shared service level. As expected, JPMCB, including its MLE branches, is the main provider of shared services, followed by JPMSIPL, together providing more than 75% of the services to other legal entities. In total MLEs provide approximately 90% of all services.

Figure 31. Top Five Shared Services by Providing Entity

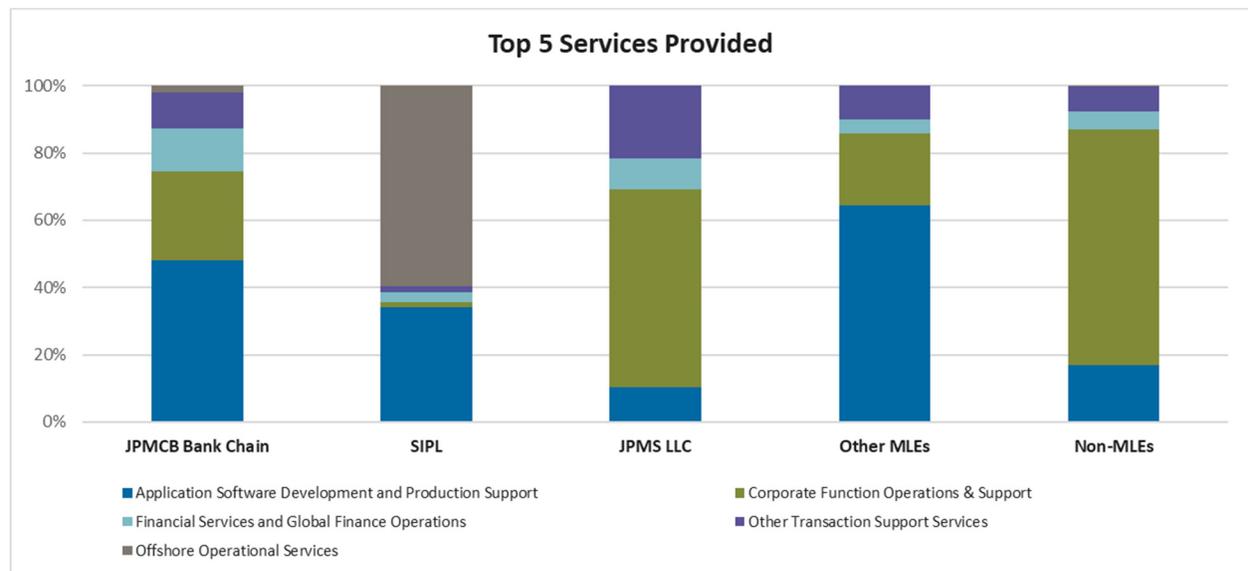
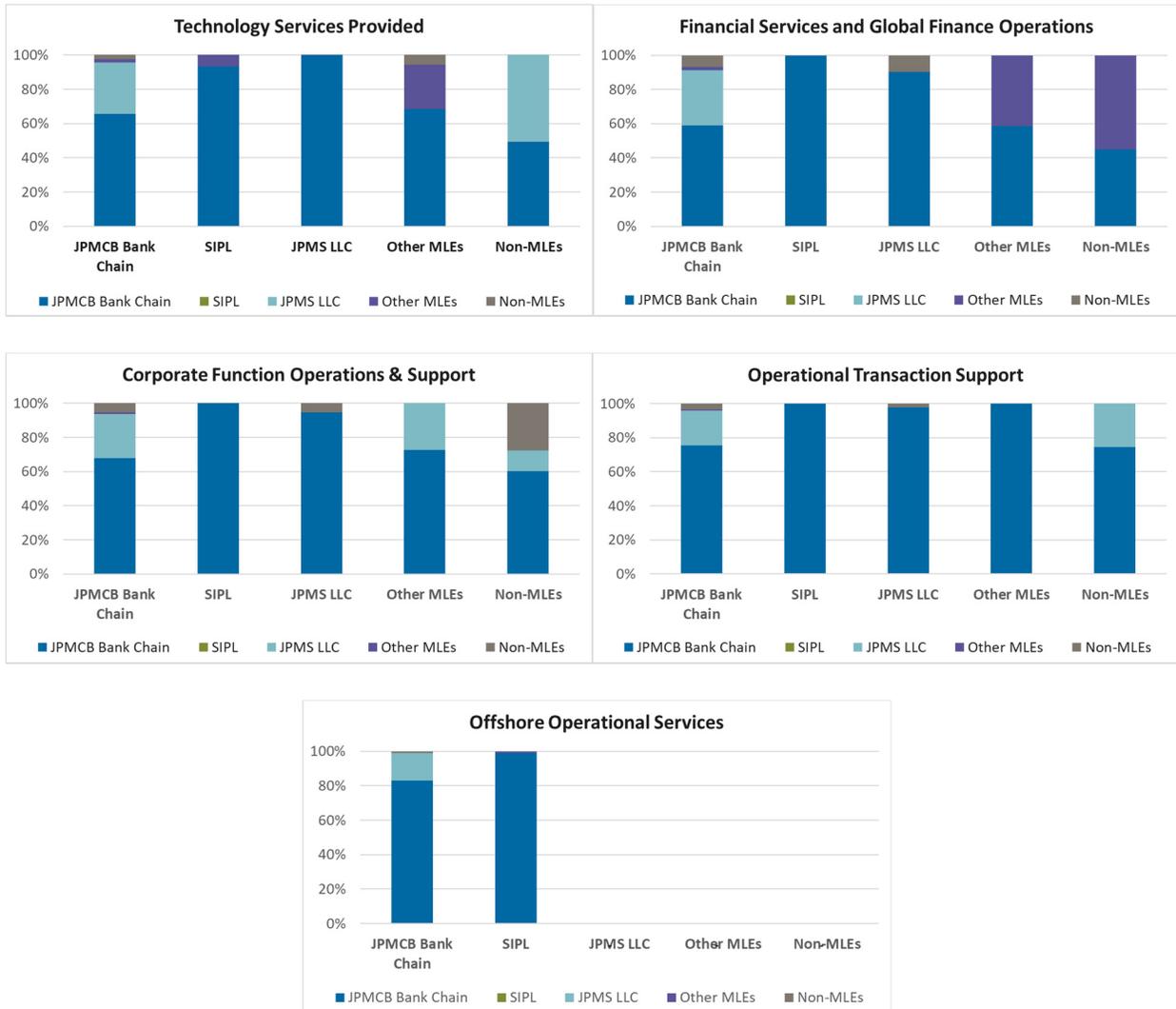


Figure 32 includes a chart for each one of the top five shared services and shows the receiver breakdown of service types provided from each providing Material Legal Entity. From a scale perspective, technology is nearly twice as large as the combined remaining shared services, followed by corporate function operations and

support which is about half of its size. The remaining services are of a similar scale.

Each chart represents one of the top five shared services. On each chart, the bar represents the Material Legal Entity providing the service and each segment represents the Material Legal Entity receiving the service.

Figure 32. Top Five Shared Services by Providing and Receiving Entity



As illustrated by Figure 33, JPMorgan Chase also concentrates the resources supporting the shared services (e.g., assets, personnel, IT, facilities, IP, contracts) within the JPMCB Bank Chain and JPMSIPL, and, where appropriate JPMS LLC.

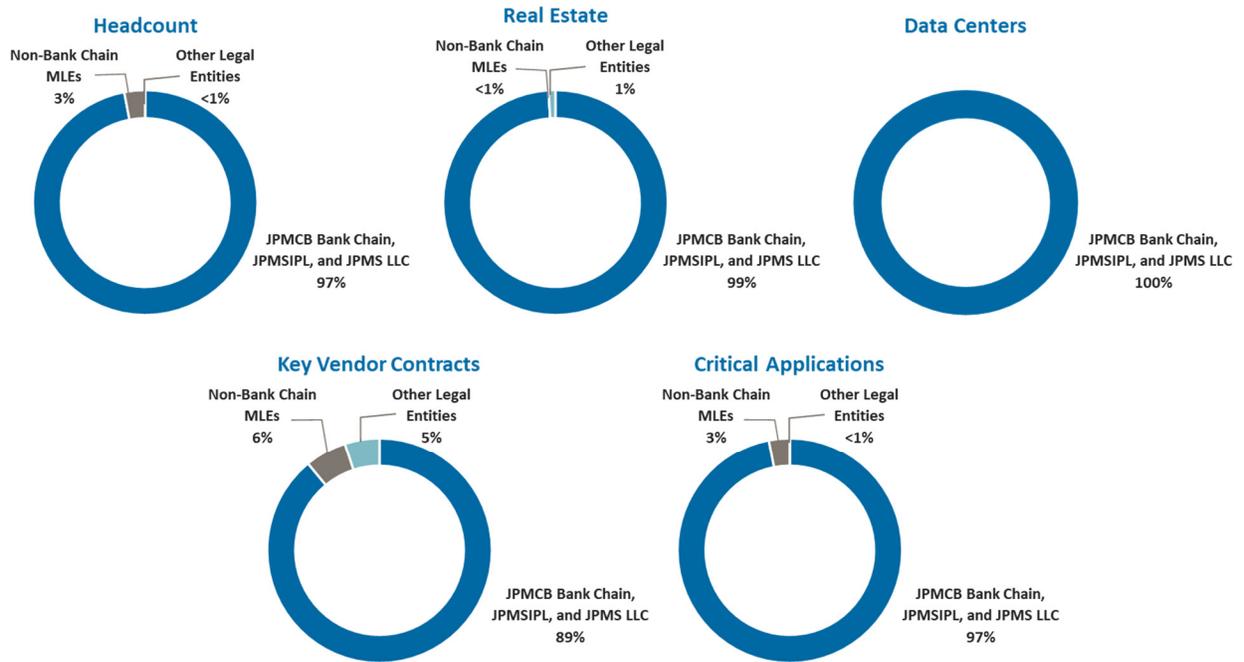
The legal entity and Preferred Strategy benefits from this approach and the management principles it employs:

- the vast majority of personnel, critical vendor relationships and management information systems applications directly supporting the Critical Shared Services, as noted above, are held through the JPMCB Bank Chain and JPMSIPL; and

- regardless of the resolution strategy, the frameworks ensure that the funding needed to support the required services is both available and provided to the legal entities needed to undertake the activities necessary to directly and indirectly support JPMorgan Chase's Critical Shared Services.

JPMC believes this concentration and funding framework help meet the objective of operational continuity during resolution.

Figure 33. Overview of JPMorgan Chase Critical Shared Services



Financial Market Utilities and Payment, Clearing and Settlement

Membership in Material Payment, Clearing and Settlement Systems

JPMorgan maintains memberships and/or participations (either directly or indirectly) in significant FMUs and agent banks to facilitate the clearing and settlement of customer securities, derivatives and cash transactions.

Those FMUs and agent banks are listed in Figure 34 below, and are described in more detail in the sections that follow.

Figure 34. Key FMUs and Agent Banks

Key FMUs and Agent Banks	
Payment Systems	
1.	FedWire Funds Service
2.	The Clearing House Interbank Payments System
3.	FedACH Services
4.	Electronic Payments Network
5.	Trans-European Automated Real-time Gross settlement Express Transfer System
6.	Euro Banking Association - EURO1
7.	Clearinghouse Automated Payment System
8.	FX Yen Clearing System
US Securities	
9.	Fedwire Securities Service
10.	The Depository Trust Company
11.	National Securities Clearing Corporation
12.	FICC Government Securities Division
13.	FICC Mortgage-Backed Securities Division
14.	CME Clearing
European Securities	
15.	Euroclear UK & Ireland Limited
16.	Euroclear Bank SA/NV
17.	Clearstream Banking SA
18.	LCH Limited
19.	LCH SA
Others	
20.	CLS
21.	SWIFT
Agent Banks	
22.	Royal Bank of Canada
23.	BNP Paribas
24.	Bank of New York Mellon

Payment Systems

U.S. Payment Systems FMUs

Fedwire Funds Service, or Fedwire Funds, is a wire transfer services provider that is owned and operated by the Federal Reserve Banks. Fedwire Funds is a real-time gross settlement system. Payments are continuously settled on an individual, order-by-order basis without netting. Participants use Fedwire Funds to instruct a Federal Reserve Bank to debit funds from the participant's own Reserve Bank account and credit the Federal Reserve Bank account of another participant. Fedwire Funds processes, among other things, the purchase and sale of federal funds; the purchase, sale and financing of securities transactions; the disbursement or repayment of loans; the settlement of domestic and cross-border U.S. dollar commercial transactions; and the settlement of real estate transactions and other high-value, time-critical payments; however, it can be used to process any payment. Fedwire Funds has not been designated as systemically important by the Financial Stability Oversight Council.

The Clearing House Interbank Payments System, or CHIPS, a U.S. payments system, is a service of The Clearing House Payments Company LLC, or The Clearing House, which, in turn, is owned by many of the world's largest commercial banks. CHIPS is a large value wire transfer payment system with real-time final net settlement of payments. Payments become final on completion of settlement, which occurs throughout the day. CHIPS processes a large proportion of U.S. dollar cross-border payments and an increasing volume of U.S. domestic payments.

FedACH Services, or FedACH, is an electronic payment system providing automated clearing house, or ACH, services that is owned and operated by the Federal Reserve Banks. The ACH system exchanges batched debit and credit payments among business, consumer and government accounts. The system processes preauthorized recurring payments such as payroll, Social Security, mortgage and utility payments, and nonrecurring payments such as telephone-initiated payments and checks converted into ACH payments at lockboxes and points of sale. It also processes outbound Key FMUs and Agent Banks cross-border ACH payments through the FedGlobal service.

Electronic Payments Network, or EPN, is an electronic payment system providing ACH services. EPN is owned and operated by The Clearing House. EPN facilitates exchanges of batched debit and credit payments among business, consumer and government accounts. The system processes pre-authorized recurring payments such as payroll, Social Security, mortgage and utility payments, as well as non-recurring payments such as telephone-initiated payments and the conversion of checks into ACH payments at lockboxes and points of sale. It also processes inbound and outbound cross-border ACH payments through foreign gateway operators.

European Payment Systems FMUs

Trans-European Automated Real-Time Gross settlement Express Transfer system, or TARGET2, is the real-time gross settlement linking system owned and operated by the Eurosystem. TARGET2 is the settlement system for cross border payments in euro, with settlement in central bank money. Participating commercial banks access the TARGET2 system via the national central banks of Eurozone Member States. TARGET2 has to be used for all payments involving the Eurosystem, as well as for the settlement of operations of all large-value net settlement systems and securities settlement systems handling the euro (e.g., EURO1).

EURO1 is a private sector owned payment system for domestic and cross-border single payments in euro between banks operating in the European Union. EURO1 participants exchange commercial and financial payments to other participants through the EURO1/STEP1 system, which is operated by EBA Clearing (the trading name of ABE Clearing S.A.S) and is subject to the lead oversight of the European Central Bank.

The Clearing House Automated Payment System, or CHAPS, is the U.K.'s interbank payment system for large value sterling payments. Responsibility for the CHAPS system transferred from the CHAPS Clearing Company to the Bank of England in November 2017. For its normal operation, CHAPS depends on the real-time gross settlement IT infrastructure of the Bank of England. CHAPS system is subject to the supervision of the Bank of England's Financial Market Infrastructure Directorate.

The Foreign Exchange Yen Clearing System is the settlement system for payments in Japanese yen, resulting from foreign exchange transactions, transactions in the euromarket, export-import transactions and other similar transactions. The processing of payments takes place on the Bank of Japan Financial Network System, whereby payments are settled on a real-time gross settlement basis. The Bank of Japan is an oversight body of the payment and settlement systems in Japan.

Securities

U.S. Securities FMUs

Fedwire Securities Service, or Fedwire Securities, is a national securities book entry system that is owned and operated by the Federal Reserve Banks. Fedwire Securities conducts real-time transfers of securities and related funds, on a gross basis. Fedwire Securities provides for the issuance, maintenance, safekeeping, transfer and settlement for U.S. Treasury securities, for many federal government agency and government sponsored enterprise securities and for certain international organizations' securities. Fedwire Securities serves depository institutions, the U.S. Treasury and federal government agencies. Fedwire Securities is primarily governed by the Federal Reserve and the Federal Reserve Banks. The U.S. Treasury also oversees specified fiscal agency activities of Fedwire Securities.

The Depository Trust Company, or DTC, is a central securities depository providing depository and book-entry services for eligible securities and other financial assets to its participants, which are principally banks and broker dealers. DTC is a subsidiary of The Depository Trust & Clearing Corporation, or DTCC, which is owned by the participants/members of its clearing agency subsidiaries, including international broker-dealers, correspondent and clearing banks, mutual fund companies and investment banks. DTC processes the movement of securities for trades that are cleared and settled in the Continuous Net Settlement system operated by its affiliate National Securities Clearing Corporation, or NSCC, a central counterparty for the clearance of trades in U.S. cash markets; processes transactions settled in Canadian dollars through its interface with credit default swap Clearing and Depository Services, Inc.; provides settlement services for institutional trades (which typically

involve money and securities transfers between custodian banks and broker dealers); and provides for the settlement of issuances and maturities of money market instruments.

National Securities Clearing Corporation, a U.S. securities clearing agency, is a subsidiary of the Depository Trust & Clearing Corporation which, in turn, is owned by its users, including major banks, broker dealers, and other financial institutions. NSCC provides clearing, settlement, risk management, central counterparty services and a guarantee of completion for certain transactions for virtually all U.S. broker-to-broker trades involving equities, corporate and municipal debt, American depository receipts, exchange-traded funds, and unit investment trusts. NSCC supports more than 50 exchanges, alternative trading systems and other trading centers, as well as banks, broker-dealers and other clearing members. NSCC generally clears and settles trades on a T+3 basis. It is regulated by the SEC and supervised by the Federal Reserve.

Fixed Income Clearing Corporation, or FICC, a U.S. securities clearing agency, is also a subsidiary of the Depository Trust & Clearing Corporation which, in turn, is owned by its users, including major banks, broker dealers and other financial institutions. FICC operates two divisions: the Government Securities Division and the Mortgage Backed Securities Division. Each division offers services to its own members pursuant to separate rules and procedures. FICC is registered as a clearing agency with the SEC and supervised by the Federal Reserve.

- The Government Securities Division is a central counterparty and provides real-time trade matching, netting and clearing services for trades in U.S. government debt issues, including repurchase agreements. Securities transactions processed by the Government Securities Division include Treasury bills, bonds, notes and government agency securities.
- The Mortgage Backed Securities Division is a central counterparty and provides real-time trade matching, netting, and clearing services for the mortgage backed securities market.

FICC is registered as a clearing agency with the SEC and supervised by the Federal Reserve.

The Chicago Mercantile Exchange Inc., or CME, provides clearing and settlement services for futures, options, and over-the-counter derivatives products. CME has been designated by the Financial Stability Oversight Council as a systemically important FMU pursuant to Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act. CME is registered with the CFTC as a derivatives clearing organization, and is regulated by the CFTC. As a systemically important FMU, CME is also subject to regulatory oversight by the Federal Reserve.

European Securities FMUs

Euroclear UK & Ireland Limited, or EUI (formerly CREST), is the U.K.'s Central Securities Depository, providing facilities for the dematerialized holding of U.K. equities, exchange traded funds, gilt securities and money market instruments (as well as certain foreign securities through EUI depository instruments).

EUI is also the securities settlement system for the settlement of these instruments. Through its links to securities settlement system in other jurisdictions (including the United States) settlement of some non-U.K. securities is also possible in EUI. EUI is regulated in the United Kingdom by the Bank of England.

Euroclear Bank, or Euroclear, provides international central securities depository services and settlement services for cross-border transactions involving domestic and international bonds, equities, derivatives and investment funds. Euroclear is a primary provider of settlement services for Eurobonds. The Euroclear group includes Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Nederland, Euroclear Sweden, and EUI, which provide settlement services in their respective local markets. Euroclear also provides related banking services to its settlement participants.

Clearstream is an international central securities depository and securities settlement system owned and operated by Clearstream Bank S.A., or CBL. A wide range of financial instruments (spanning a variety of equity and debt instruments and warrants) are eligible for deposit and transfer in Clearstream. CBL provides custody-related services (corporate action processing, withholding tax services, etc.) for securities held in Clearstream. CBL also provides securities borrowing and lending services to customers as well as a triparty

collateral management service (including a triparty repo service). CBL is incorporated in Luxembourg and is authorized as a credit institution (i.e., a bank) by the Commission de Supervision du Secteur Financier of Luxembourg. CBL is also subject to the oversight of the Central Bank of Luxembourg.

LCH Limited, or LCH Ltd, is a central counterparty incorporated under the laws of England and Wales. LCH provides central clearing for a wide range of products including, commodities (exchange traded and OTC); equities, energy, fixed income (RepoClear), FX contracts (ForexClear), freight; and interest rate and credit default swaps (SWAPClear). It is regulated by the Financial Services Authority and is also subject to the oversight of the Bank of England. LCH Ltd is also a derivatives clearing organization in the United States, and is subject to CFTC rules and the U.S. Commodity Exchange Act. LCH Ltd is a wholly owned subsidiary of LCH.Clearnet Group Limited. LCH.Clearnet Group Limited is majority owned by the London Stock Exchange Group; the remaining shareholding is held by its users and other exchanges.

LCH SA is a central counterparty incorporated under the laws of France. It provides central clearing of a wide range of products, including: credit default swaps, energy (Bluenext), futures and options, equities and cash bonds and repos. LCH SA is regulated as a credit institution and central counterparty by a regulatory college consisting of the market regulators and central banks from the jurisdictions of France, Netherlands, Belgium and Portugal. LCH SA is also regulated in the United Kingdom by the Bank of England as a recognized overseas clearing house. LCH SA is a majority-owned subsidiary of LCH.Clearnet Group Limited. LCH.Clearnet Group Limited is majority owned by the London Stock Exchange Group; the remaining shareholding is held by its users and other exchanges.

Others

CLS Bank International, or CLS Bank, is a multi-currency cash settlement system. Through its Continuous Linked Settlement, or CLS, platform, CLS Bank settles payment instructions related to trades in traded FX spot contracts, FX forwards, FX options, FX swaps, credit derivatives across eighteen major currencies. CLS Bank's parent company, CLS Group Holdings, is a Swiss company that owns CLS UK Intermediate Holdings, Ltd., which in turn

owns CLS Bank and CLS Services, a company organized under the laws of England that provides technical and operational support to CLS Bank. As an Edge Act corporation, CLS Bank is regulated and supervised in the United States by the Board of Governors of the Federal Reserve System. In the United Kingdom, Her Majesty's Treasury has specified CLS Bank as a recognized payment system, and it is subject to regulation by the Bank of England.

The Society for Worldwide Interbank Financial Telecommunication, or SWIFT, provides a telecommunication platform for the exchange of standardized financial messages between financial institutions, between financial institutions and market infrastructures, and between financial institutions and their corporate clients. Although SWIFT is neither a payment system nor a settlement system and, as such, is not regulated by central banks or bank supervisors, a large and growing number of systemically important payment systems have become dependent on SWIFT as a critical service provider. SWIFT is therefore subject to oversight by the central banks of the G10 led by the National Bank of Belgium. In addition, though not deemed a key FMU, we enhanced the analysis of our vendors Visa and MasterCard to determine the scope of interaction and outlined our alternative strategy.

Agent Banks

Royal Bank of Canada, or RBC, is the largest bank in Canada by market capitalization, and ranks among the top 20 banks globally by market capitalization. RBC operates in five key market segments; Personal and Commercial Banking, Wealth Management, Insurance, Investor & Treasury Services and Capital Markets. RBC is listed as a Schedule I bank by the Canadian Bankers Association, authorized by the Office of the Superintendent of Financial Institutions to operate in Canada and authorized under the Bank Act to accept deposits, which may be eligible for deposit insurance provided by the Canadian Deposit Insurance Corporation. RBC acts as JPMorgan Chase's correspondent bank and subcustodian in Canada. The RBC is named as a G-SIB by the Financial Stability Board.

The BNP Paribas Group was formed in 2000 through the merger of Banque Nationale de Paris and Paribas. The BNP Paribas Group, which includes BNP Paribas

Securities Services SCA, or BP2S, and BNP Paribas S.A., or BNPSA, is organized into three core business divisions: Investment Solutions, Retail Banking, Corporate & Investment Bank. BP2S, which falls within Corporate & Investment Bank, provides clearing and settlement services for transactions involving domestic and international bonds, equities, derivatives and investment funds. BP2S provides subcustody services via its proprietary network in 26 countries globally. BP2S is regulated by the French regulators Autorité de Contrôle Prudentiel et de Résolution and Autorité des Marchés Financiers, which provides them with a European passport. Local regulators such as the Dutch Autoriteit Financiële Markten or the German Bundesanstalt für Finanzdienstleistungsaufsicht may regulate specific local businesses undertaken by BP2S. BNP acts as JPMorgan Chase's subcustodian across nine markets in Europe and as JPMorgan Chase's correspondent bank in France. The BNP Paribas Group is named as a G-SIB by the Financial Stability Board.

The Bank of New York is a custody and clearance service provider to JPMorgan Chase including servicing U.S. government securities and tri-party repurchase activity. It is the predominant service provider for U.S. government clearing. The Bank of New York was formed in 2007 through the merger of The Bank of New York Company, Inc. and Mellon Financial Corporation. The Bank of New York operates in four key market segments: Investment Services, Investment Management, Markets and Wealth Management. Its U.S. government clearing business is operated in the Investment Services division through broker-dealer services. To specifically service the U.S. government clearing activity, the Bank of New York has set up a separate wholly owned subsidiary, BNY Mellon Government Securities Services Corp. The Bank of New York is named as a G-SIB by the Financial Stability Board.

Description of Management Information Systems

Description of Material Management Information

JPMorgan Chase maintains a comprehensive set of management information surrounding its risk, liquidity, financial and regulatory reporting and monitoring.

JPMorgan Chase's risk management framework and governance structure are intended to provide comprehensive controls and ongoing management of the major risks inherent in its business activities. The firm employs a holistic approach to risk management intended to ensure the broad spectrum of risk types are considered in managing its business activities. The firm's risk management framework is intended to create a culture of risk awareness and personal responsibility throughout the firm where collaboration, discussion, escalation and sharing of information are encouraged.

The firm's exposure to risk through its daily business dealings, including lending and capital markets activities and operational services, is identified and aggregated through the firm's risk management infrastructure. There are several major risk types identified in the business activities of the firm: liquidity risk; credit risk; market risk; country risk; model risk; principal risk; operational risk; legal, regulatory, and compliance risk; fiduciary risk and reputation risk.

Governance and Oversight

The firm's overall appetite for risk is governed by a risk appetite framework. The framework and the firm's risk appetite are set and approved by the firm's CEO, CFO and CRO. Line of business-level risk appetite is set by the respective CEO, CFO and CRO for the line of business and is approved by the firm's CEO, CFO and CRO. Quantitative parameters and qualitative factors are used to monitor and measure the firm's capacity to take risk consistent with its stated risk appetite. Quantitative parameters have been established to assess select strategic risks, credit risks and market risks. Qualitative factors have been established to assess select operational risks, and impact to the firm's reputation. Risk appetite results are reported quarterly to the JPMC Board of Directors' Risk Policy Committee, or DRPC.

The firm has an Independent Risk Management function, which consists of the Risk Management and Compliance organizations. The CEO appoints, subject to DRPC approval, the firm's CRO to lead the Independent Risk

Management function and manage the risk governance structure of the firm. The framework is subject to approval by the DRPC in the form of the primary risk management policies. The firm's CRO oversees and delegates authorities to line of business CROs, FREs and the firm's CCO. The CCO oversees and delegates authorities to the line of business CCOs, and is responsible for the creation and effective execution of the Global Compliance Program. For further discussion see the section on enterprise-wide risk management on pages 79-140 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

Risk Monitoring and Management

The firm has developed policies and practices that are designed to preserve the independence and integrity of the approval and decision-making process of extending credit to ensure credit risks are assessed accurately, approved properly, monitored regularly and managed actively at both the transaction and portfolio levels. The policy framework establishes credit approval authorities, concentration limits, risk-rating methodologies, portfolio review parameters and guidelines for management of distressed exposures. In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are independently validated by groups that are separate from the line of businesses.

Liquidity Risk Management

Liquidity risk is the risk that the firm will be unable to meet its contractual and contingent financial obligations as they arise or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets and liabilities.

Liquidity Risk Oversight

The firm has a liquidity risk oversight function whose primary objective is to provide assessment, measurement, monitoring and control of liquidity risk across the firm. Liquidity risk oversight is managed through a dedicated firmwide Liquidity Risk Oversight group. The CIO, Treasury and Corporate CRO, who reports to the firm's CRO, is responsible for firmwide Liquidity Risk Oversight. Liquidity Risk Oversight's responsibilities include:

- establishing and monitoring limits, indicators and thresholds, including liquidity appetite tolerances;

- monitoring and reporting internal firmwide and legal entity liquidity stress tests as well as regulatory defined liquidity stress tests;
- approving or escalating for review new or updated liquidity stress assumptions;
- monitoring liquidity positions, balance sheet variances and funding activities;
- conducting ad hoc analysis to identify potential emerging liquidity risks; and
- performing independent review of liquidity risk management processes.

Liquidity Management

Treasury and CIO is responsible for liquidity management. The primary objectives of effective liquidity management are to:

- ensure that the firm's core businesses and material legal entities are able to operate in support of client needs and meet contractual and contingent financial obligations through normal economic cycles as well as during stress events, and
- manage an optimal funding mix and availability of liquidity sources.

As part of the firm's overall liquidity management strategy, the firm manages liquidity and funding using a centralized, global approach in order to:

- optimize liquidity sources and uses;
- monitor exposures;
- identify constraints on the transfer of liquidity between the firm's legal entities; and
- maintain the appropriate amount of surplus liquidity at a firmwide and legal entity level, where relevant.

In the context of the firm's liquidity management, Treasury and CIO is responsible for:

- analyzing and understanding the liquidity characteristics of the assets and liabilities of the firm, lines of business and legal entities, taking into

account legal, regulatory and operational restrictions;

- developing internal liquidity stress testing assumptions;
- defining and monitoring firmwide and legal entity-specific liquidity strategies, policies, reporting and contingency funding plans;
- managing liquidity within the firm's approved liquidity risk appetite tolerances and limits;
- managing compliance with regulatory requirements related to funding and liquidity risk; and
- setting transfer pricing in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items.

Liquidity Risk Infrastructure Initiative

Since Q4 2011, JPMC has worked to implement the firmwide, mission critical liquidity risk infrastructure initiative. The objective of the initiative has been to develop world-class liquidity risk measurement, analytics, reporting, and management capabilities utilizing a high degree of automation that enables the firm to increase the granularity and frequency of analytic and reporting capabilities while adapting to changing business needs in a timely manner. The program has allowed the liquidity management Treasury and CIO groups, Liquidity Risk Oversight and the lines of business liquidity teams to do the following:

- support strategic decision-making and our fortress balance sheet;
- ensure the firm is appropriately funded in all economic cycles;
- monitor and manage liquidity at the firm and legal entity levels within approved liquidity risk appetite tolerances as well as other internal and regulatory requirements;
- meet regulatory reporting requirements; and
- support resolution planning, liquidity analytics and reporting requirements.

Liquidity Risk Governance and Measurement

Committees responsible for liquidity governance include the firmwide ALCO as well as line of business and regional ALCOs, the Treasurer Committee and the CTC Risk Committee. In addition, the DRPC reviews and recommends to the Board of Directors, for formal approval, the firm's liquidity risk tolerances, liquidity strategy and liquidity policy at least annually.

Internal Stress Testing

Liquidity stress tests are intended to ensure that the firm has sufficient liquidity under a variety of adverse scenarios, including scenarios analyzed as part of the firm's resolution and recovery planning. Stress scenarios are produced for JPMC and the firm's Material Legal Entities on a regular basis, and ad hoc stress tests are performed, as needed, in response to specific market events or concerns. Liquidity stress tests assume all of the firm's contractual financial obligations are met and take into consideration:

- varying levels of access to unsecured and secured funding markets,
- estimated non-contractual and contingent cash outflows, and
- potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

Liquidity outflow assumptions are modeled across a range of time horizons and currency dimensions and contemplate both market and idiosyncratic stresses.

Results of stress tests are considered in the formulation of the firm's funding plan and assessment of its liquidity position. JPMC acts as a source of funding for the firm through equity and long-term debt issuances, and the IHC provides funding support to the ongoing operations of JPMC and its subsidiaries, as necessary. The firm maintains liquidity at JPMC and the IHC, in addition to liquidity held at the operating subsidiaries, at levels sufficient to comply with liquidity risk tolerances and minimum liquidity requirements, and to manage through periods of stress where access to normal funding sources is disrupted.

Liquidity, Finance, Risk and Regulatory Management Reporting

Maintaining a strong balance sheet to manage through economic volatility is a key principle and strategy at JPMorgan Chase. This balance sheet philosophy consists of conservative accounting prudent risk management and sound business practices, supported by robust liquidity and capital standards. JPM Group believes that in addition to a strong balance sheet, it is also important to have strong and diversified earnings. These high standards provide the ability to offer our products and services to clients throughout business cycles and extreme conditions, which we believe is integral to a healthy economy.

We measure each of JPMC's businesses objectively in relation to performance targets, competitor performance, quality of earnings and the current point within the credit cycle.

Importantly, each business is evaluated against "fully loaded" income statements and balance sheets, which include both direct costs and allocated costs based on arm's-length agreements and market-based pricing. The firm's disciplined approach to financial management includes a continual focus on a strong capital position and the maintenance of a strong liquidity profile, especially during stressed environments, coupled with a conservative reserving approach.

JPMC's management reporting processes are structured to promptly identify key information, escalate and engage the appropriate level of management to review and assess key information and swiftly decision appropriate sets of actions and responses to any emerging situations and ongoing results. There are a host of daily, weekly, monthly and quarterly reporting processes at the firm. We aim to provide transparent, accurate, reliable and timely financial information that can be used by management to make sound financial decisions; for analysts to assess the firm's financial position; investors to make informed decisions; and regulators to supervise and examine us appropriately. Our goal is to continuously improve the reporting process through enhancements to the control and financial reporting environment that focus on analytics, compliance and reporting; a continued focus on accuracy and transparency and efficiency of the firm's financial

reporting, internally and across regulatory and external reporting.

The JPMC technology functions that serve our businesses support the firm's risk, liquidity, financial and regulatory reporting infrastructure to ensure both internal and external clients have access to the tools and information. The technology functions include business aligned application development and enterprise wide technology groups. They are coordinated around a firmwide organizational structure reporting to the JPMC CIO and, in certain cases, also to line of business executives. The JPMC information security program is designed to provide for the security and confidentiality of customer, client and employee information.

Capital Risk Management

Capital risk is the risk the firm has an insufficient level and composition of capital to support the firm's business activities and associated risks during normal economic environments and under stressed conditions. A strong capital position is essential to the firm's business strategy and competitive position. Maintaining a strong balance sheet to manage through economic volatility is considered a strategic imperative of the firm's Board of Directors, CEO and Operating Committee. The firm's fortress balance sheet philosophy focuses on risk-adjusted returns, strong capital and robust liquidity. The firm's capital risk management strategy focuses on maintaining long-term stability to enable it to build and invest in market-leading businesses, even in a highly stressed environment. Senior management considers the implications on the firm's capital prior to making any significant decisions that could impact future business activities. In addition to considering the firm's earnings outlook, senior management evaluates all sources and uses of capital with a view to ensuring the firm's capital strength.

Capital Management Oversight

With the reorganization of the capital management group into the Treasury and CIO organization, the firm established a capital management oversight function within the CIO, Treasury and Corporate risk function. The CRO of CIO, Treasury and Corporate, who reports to the firm's CRO, is responsible for firmwide capital management oversight. The capital management group's oversight responsibilities include:

- establishing, calibrating and monitoring capital risk limits and indicators, including capital risk appetite tolerances;
- performing independent assessment of the firm's capital management activities; and
- monitoring the firm's capital position and balance sheet activities.

In addition, the Basel Independent Review function, which is now a part of the Independent Risk Management function, conducts independent assessments of the firm's regulatory capital framework. These assessments are intended to ensure compliance with the applicable regulatory capital rules in support of senior management's responsibility for managing capital and for the DRPC's oversight of management in executing that responsibility.

Capital Management

Treasury and CIO assumed responsibility for capital management in March 2018. The primary objectives of effective capital management are to:

- maintain sufficient capital in order to continue to build and invest in the firm's businesses through the cycle and in stressed environments;
- retain flexibility to take advantage of future investment opportunities;
- promote the firm's ability to serve as a source of strength to its subsidiaries;
- ensure the firm operates above the minimum regulatory capital ratios as well as maintains "well-capitalized" status for the firm and its IDI subsidiaries at all times under applicable regulatory capital requirements;
- meet capital distribution objectives; and
- maintain sufficient capital resources to operate throughout a resolution period in accordance with the firm's preferred resolution strategy.

These objectives are achieved through the establishment of minimum capital targets and a strong capital governance framework. Capital risk management is intended to be flexible in order to react to a range of

potential events. The firm's minimum capital targets are based on the most binding of three pillars: an internal assessment of the firm's capital needs; an estimate of required capital under the CCAR and Dodd-Frank Act stress testing requirements; and Basel III fully phased-in regulatory minimums. Where necessary, each pillar may include a management-established buffer. The capital governance framework requires regular monitoring of the firm's capital positions, stress testing and defining escalation protocols, both at the firm and material legal entity levels.

The firm's Basel III ratios exceed both the transitional and fully phased-in regulatory minimums as of December 31, 2018 and 2017. For further discussion of these capital metrics, including regulatory minimums, and the standardized and advanced approaches, refer to the section on regulatory capital on pages 86-91 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

Capital Planning and Stress Testing

Comprehensive Capital Analysis and Review

The Federal Reserve requires large bank holding companies, including the firm, to submit on an annual basis a capital plan that has been reviewed and approved by the Board of Directors. The Federal Reserve uses the CCAR and other stress testing processes to ensure that large BHCs have sufficient capital during periods of economic and financial stress, and have robust, forward-looking capital assessment and planning processes in place that address each BHC's unique risks to enable it to absorb losses under certain stress scenarios. Through CCAR, the Federal Reserve evaluates each BHC's capital adequacy and internal capital adequacy assessment processes, as well as its plans to make capital distributions, such as dividend payments or stock repurchases.

On June 28, 2018, the Federal Reserve informed the firm that it did not object, on either a quantitative or qualitative basis, to the firm's 2018 capital plan. For information on actions taken by the firm's Board of Directors following the 2018 CCAR results, refer to the section on capital actions on pages 91-92 of JPMorgan Chase's 2018 Annual Report on Form 10-K.

Internal Capital Adequacy Assessment Process

Annually, the firm prepares the internal capital adequacy assessment processes, which informs the Board of Directors of the ongoing assessment of the firm's processes for managing the sources and uses of capital as well as compliance with supervisory expectations for capital planning and capital adequacy. The firm's internal capital adequacy assessment process integrates stress testing protocols with capital planning. The firm's Audit Committee is responsible for reviewing and approving the capital stress testing control framework.

The CCAR and other stress testing processes assess the potential impact of alternative economic and business scenarios on the firm's earnings and capital. Economic scenarios, and the parameters underlying those scenarios, are defined centrally and applied uniformly across the businesses. These scenarios are articulated in terms of macroeconomic factors, which are key drivers of business results; global market shocks, which generate short-term but severe trading losses; and idiosyncratic operational risk events. The scenarios are intended to capture and stress key vulnerabilities and idiosyncratic risks facing the firm. However, when defining a broad range of scenarios, actual events can always be worse. Accordingly, management considers additional stresses outside these scenarios as necessary. These results are reviewed by management and the Board of Directors.

For further detail on regulatory capital, economic risk capital and line of business equity, please refer to JPMorgan Chase's 2018 Annual Report on Form 10-K and other JPMorgan Chase & Co. 1934 Act reports.

Capital Governance

Committees responsible for overseeing the firm's capital management include the Capital Governance Committee, the Treasurer Committee and the ALCO. Capital management oversight is governed through the CTC Risk Committee. In addition, the DRPC approves the firm's capital management oversight policy and reviews and recommends to the Board of Directors, for formal approval, the firm's capital risk tolerances.

Key Regulators for JPMC and JPMCB

As we conduct a range of financial activities in multiple countries, JPMorgan Chase is supervised by multiple regulators. The Federal Reserve acts as the principal regulator, and certain of JPMC's subsidiaries are regulated directly by additional authorities based on the particular activities of those subsidiaries. The firm's national bank subsidiary, JPMCB, is subject to supervision and regulation by the OCC and, with respect to certain matters, by the Federal Reserve and the FDIC. Outside the United States, JPMCB's branches are also supervised by local bank regulators, such as the Bank of Japan for JPMCB Tokyo Branch, and the Hong Kong Monetary Authority for JPMCB Hong Kong Branch.

Nonbank subsidiaries, such as JPMS LLC, are subject to supervision and regulation by the SEC and, with respect to certain futures-related and swaps-related activities, by the CFTC. The firm conducts securities underwriting, dealing and brokerage activities in the United States through JPMS LLC and other broker-dealer subsidiaries, all of which are subject to SEC regulations and those of the Financial Industry Regulatory Authority and the New York Stock Exchange, among others. The firm conducts similar securities activities outside the United States subject to local regulatory requirements. For example, in the United Kingdom, those activities are conducted by J.P. Morgan Securities plc, which is regulated by the Prudential Regulation Authority, a subsidiary of the Bank of England with responsibility for prudential regulation of banks and other systemically important institutions, and the Financial Conduct Authority, which regulates prudential matters for other firms and conduct matters for all market participants. In Japan, the firm's securities activities are conducted by JPMorgan Securities Japan Co. Ltd., which is regulated by the Japan Financial Services Agency.

The firm's investment management business is subject to significant regulation in numerous jurisdictions around the world relating to, among other things, the safeguarding of client assets, offerings of funds,

marketing activities, transactions among affiliates and management of client funds. Certain of the firm's subsidiaries are registered with, and subject to oversight by, the SEC as investment advisers. As such, the firm's registered investment advisers are subject to the fiduciary and other obligations imposed under the Investment Advisers Act of 1940 and the rules and regulations promulgated thereunder, as well as various states securities laws.

The firm has subsidiaries that are members of futures exchanges in the United States and abroad and are registered accordingly. In the United States, one subsidiary is registered as a futures commission merchant, and other subsidiaries are either registered with the CFTC as commodity pool operators and commodity trading advisors or exempt from such registration. These CFTC-registered subsidiaries are also members of the National Futures Association. The firm's commodities business is also subject to regulation by the Chicago Mercantile Exchange, London Metals Exchange and the Federal Energy Regulatory Commission. JPMCB, J.P. Morgan Securities LLC and J.P. Morgan Securities plc have registered with the CFTC as swap dealers.

The firm and its subsidiaries also are subject to federal, state and international laws and regulations concerning the use and protection of certain customer, employee and other personal and confidential information, including those imposed by the Gramm-Leach-Bliley Act and the Fair Credit Reporting Act, as well as the EU Data Protection Directive, among others. The firm is also subject to laws and regulations relating to corrupt and illegal payments to government officials and others in the jurisdictions in which it operates, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act.

For further details on material supervisory authorities, please refer to the 2018 Annual Report on Form 10-K and other JPMC 1934 Act reports.

Principal Officers

Figure 35. Executive officers of JPMC and JPMCB (as of June 28, 2019)

Name	Positions and offices
James Dimon	Chairman of the Board, Chief Executive Officer of JPMC Chief Executive Officer and President of JPMorgan Chase Bank, N.A.
Ashley Bacon	Chief Risk Officer
Lori A. Beer	Chief Information Officer
Mary Callahan Erdoes	Chief Executive Officer of Asset & Wealth Management.
Stacey Friedman	General Counsel
Marianne Lake	Chief Executive Officer of Consumer Lending
Robin Leopold	Head of Human Resources
Douglas B. Petno	Chief Executive Officer of Commercial Banking
Jennifer Piepszak	Chief Financial Officer
Daniel E. Pinto	Co-President and Co-Chief Operating Officer of JPMC; Chief Executive Officer of the Corporate & Investment Bank
Peter Scher	Head of Corporate Responsibility
Gordon A. Smith	Co-President and Co-Chief Operating Officer of JPMC; Chief Executive Officer of Consumer & Community Banking
Notes regarding additional, select officer titles with JPMorgan Chase Bank, N.A.	
Stephen B. Burke	Non-executive Chairman of the Board
Louis Rauchenberger	General Auditor
Frank Pearn	Chief Compliance Officer
John S. Horner	Treasurer
Molly Carpenter	Secretary
Cristiano M. Almeida	Controller

Resolution Planning Corporate Governance Structure and Processes

Resolution planning at JPMorgan Chase is coordinated in a resolution planning office led by a senior officer of the firm in the Treasury and CIO organization. As head of resolution planning, this senior officer has firmwide responsibility to ensure that the firm is adopting business organizational strategies, policies and procedures that appropriately address the challenges faced in establishing a robust and credible resolution regime.

The head of resolution planning works closely with the management teams of each of the lines of business and sub-lines of business, as well as with the management teams of functional support groups (e.g., Risk, Finance, Treasury, Legal, HR, Technology & Operations, Mergers & Acquisitions, etc.) to assess resolution strategies. The Office of the Head of Resolution Planning is responsible for compiling, reviewing and maintaining all resolution-related information.

To support and maintain the sustainability of resolution planning at the firm, we embed required resolution related information into the ongoing, Business as Usual control processes, reporting and governance of the firm. Development of the Resolution Plan is subject to independent review and challenge.

The senior officer responsible for resolution planning reports to the head of Capital and Liquidity Management. The Chief Financial Officer is ultimately accountable for the resolution plan. A governance body consisting of the JPMC CFO, CRO, and General Counsel, among others, is in place to provide oversight and guidance to the resolution planning process. Each of the Operating Committee members reviews and approves their respective line of business or functional resolution analyses and information. The process is reviewed with the Directors Risk Policy Committee, and updates on progress are made regularly to the Directors Risk Policy Committee. The submission of our 2019 Resolution Plan has been approved by the JPMC Board.

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Other Required Financial Information Disclosures in the Public Filing

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Summary Financial Information

Defined terms in this section are capitalized and may be found either in the Glossary beginning on page 135 or in the 2018 Annual Report.

Figure 36 is the firm's consolidated balance sheets from the firm's 2018 Annual Report on Form 10-K for the period ended December 31, 2018. For a more detailed discussion on each of the specific line captions on the Consolidated Balance Sheets, please refer to JPMorgan Chase's 2018 Annual Report on Form 10-K and other JPMorgan Chase & Co. 1934 Act reports.

Figure 36. JPMorgan Chase – Consolidated Balance Sheets^(a)

December 31, (in millions)	2018	2017
Assets		
Cash and due from banks	\$22,324	\$25,898
Deposits with banks	256,469	405,406
Federal funds sold and securities purchased under resale agreements	321,588	198,422
Securities borrowed	111,995	105,112
Trading assets	413,714	381,844
Securities	261,828	249,958
Loans	984,554	930,697
Allowance for loan losses	(13,445)	(13,604)
Loans, net of allowance for loan losses	971,109	917,093
Accrued interest and accounts receivable	73,200	67,729
Premises and equipment	14,934	14,159
Goodwill, MSRs and other intangible assets	54,349	54,392
Other assets	121,022	113,587
Total assets	\$2,622,532	\$2,533,600
Liabilities		
Deposits	\$1,470,666	\$1,443,982
Federal funds purchased and securities loaned or sold under repurchase agreements	182,320	158,916
Short-term borrowings	69,276	51,802
Trading liabilities	144,773	123,663
Accounts payable and other liabilities	196,710	189,383
Beneficial interests issued by consolidated variable interest entities	20,241	26,081
Long-term debt	282,031	284,080
Total liabilities	2,366,017	2,277,907
Stockholders' equity	256,515	255,693
Total liabilities and stockholders' equity	\$2,622,532	\$2,533,600

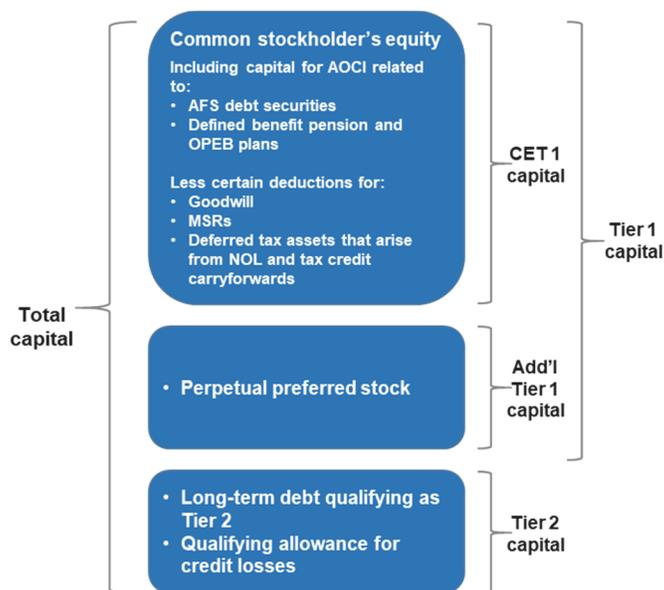
(a) The accompanying footnotes included in our 2018 Annual Report on Form 10-K are an integral part of our consolidated financial statements.

Effective January 1, 2018, the firm adopted several new accounting standards. Certain of the new accounting standards were applied retrospectively and, accordingly, prior period amounts were revised.

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the consolidated financial holding company. The OCC establishes similar minimum capital requirements and standards for the firm's national banks, including JPMCB.

Capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. bank holding companies and banks, including the firm and its insured depository institution subsidiaries. Basel III presents two comprehensive methodologies for calculating RWA: a general (standardized) approach (Basel III Standardized) and an advanced approach (Basel III Advanced). Certain of the requirements of Basel III are subject to phase-in periods that began on January 1, 2014, and continue through the end of 2018.

The three components of regulatory capital under the Basel III rules are as illustrated below:



Under the risk-based and leverage-based capital guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios for CET1, Tier 1, Total, Tier 1 leverage and the SLR. Failure to meet these minimum requirements could cause the Federal Reserve to take action. IDI subsidiaries are also subject to these capital requirements by their respective primary regulators.

The following tables present the risk-based and leverage-based capital metrics for JPMorgan Chase and its significant IDI subsidiaries under both the Basel III Standardized and Basel III Advanced Approaches. As of December 31, 2018 and 2017, JPMorgan Chase and all of its IDI subsidiaries were well capitalized and met all capital requirements to which each was subject.

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

December 31, 2018 (in millions, except ratios)	Basel III Standardized Transitional			Basel III Advanced Transitional		
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	Chase Bank USA, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	Chase Bank USA, N.A.
Regulatory capital						
CET1 capital	\$183,474	\$187,259	\$23,696	\$183,474	\$187,259	\$23,696
Tier 1 capital	209,093	187,259	23,696	209,093	187,259	23,696
Total capital	237,511	198,494	28,628	227,435	192,250	27,196
Assets						
Risk-weighted	1,528,916	1,348,230	112,513	1,421,205	1,205,539	174,469
Adjusted average ^(a)	2,589,887	2,189,293	118,036	2,589,887	2,189,293	118,036
Capital ratios^(b)						
CET1	12.0%	13.9%	21.1%	12.9%	15.5%	13.6%
Tier 1	13.7	13.9	21.1	14.7	15.5	13.6
Total	15.5	14.7	25.4	16.0	15.9	15.6
Tier 1 leverage ^(c)	8.1	8.6	20.1	8.1	8.6	20.1

December 31, 2017 (in millions, except ratios)	Basel III Standardized Transitional			Basel III Advanced Transitional		
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	Chase Bank USA, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	Chase Bank USA, N.A.
Regulatory capital						
CET1 capital	\$183,300	\$184,375	\$21,600	\$183,300	\$184,375	\$21,600
Tier 1 capital	208,644	184,375	21,600	208,644	184,375	21,600
Total capital	238,395	195,839	27,691	227,933	189,510 ^(d)	26,250
Assets						
Risk-weighted	1,499,506	1,338,970 ^(d)	113,108	1,435,825	1,241,916 ^(d)	190,523
Adjusted average ^(a)	2,514,270	2,116,031	126,517	2,514,270	2,116,031	126,517
Capital ratios^(b)						
CET1	12.2%	13.8%	19.1%	12.8%	14.8% ^(d)	11.3%
Tier 1	13.9	13.8	19.1	14.5	14.8 ^(d)	11.3
Total	15.9	14.6 ^(d)	24.5	15.9	15.3 ^(d)	13.8
Tier 1 leverage ^(c)	8.3	8.7	17.1	8.3	8.7	17.1

(a) Adjusted average assets, for purposes of calculating the Tier 1 leverage ratio, includes total quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill and other intangible assets.

(b) For each of the risk-based capital ratios, the capital adequacy of the firm and its IDI subsidiaries is evaluated against the lower of the two ratios as calculated under Basel III approaches (Standardized or Advanced).

(c) The Tier 1 leverage ratio is not a risk-based measure of capital.

(d) The prior period amounts have been revised to conform with the current period presentation.

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

Description of Foreign Operations

International operations

The following table presents income statement- and balance sheet-related information for JPMorgan Chase by major international geographic area. The firm defines international activities for purposes of this footnote presentation as business transactions that involve clients residing outside of the U.S., and the information presented below is based predominantly on the domicile of the client, the location from which the client relationship is managed, or the location of the trading desk. However, many of the firm's U.S. operations serve international businesses.

As the firm's operations are highly integrated, estimates and subjective assumptions have been made to apportion revenue and expense between U.S. and international operations. These estimates and assumptions are consistent with the allocations used for the firm's segment reporting as set forth in note 31 of JPMorgan Chase's Annual Report on Form 10-K.

The firm's long-lived assets for the periods presented are not considered by management to be significant in relation to total assets. The majority of the firm's long-lived assets are located in the U.S.

For further details on foreign operations, please refer to JPMorgan Chase's 2018 Annual Report on Form 10-K and other JPMorgan Chase & Co. 1934 Act reports.

As of or for the year ended December 31, (in millions)	Revenue	Expense	Income Before Income Tax Expense	Net Income	Total Assets
2018					
Europe/Middle East/Africa	\$ 16,181	\$ 9,953	\$ 6,228	\$ 4,444	\$ 423,835(e)
Asia/Pacific	7,119	4,866	2,253	1,593	171,242
Latin America/Caribbean	2,435	1,413	1,022	718	46,560
Total international	25,735	16,232	9,503	6,755	641,637
North America ^(a)	83,294	52,033	31,261	25,719	1,980,895
Total	\$ 109,029	\$ 68,265	\$ 40,764	\$ 32,474	\$ 2,622,532
2017					
Europe/Middle East/Africa	\$ 15,120	\$ 9,347	\$ 5,773	\$ 4,007	\$ 407,145(e)
Asia/Pacific	6,028	4,500	1,528	852	163,718
Latin America/Caribbean	1,994	1,523	471	299	44,569
Total international	23,142	15,370	7,772	5,158	615,432
North America ^(a)	77,563	49,435	28,128	19,283	1,918,168
Total	\$ 100,705	\$ 64,805	\$ 35,900	\$ 24,441	\$ 2,533,600
2016					
Europe/Middle East/Africa	\$ 14,418	\$ 9,126	\$ 5,292	\$ 3,783	\$ 394,134(e)
Asia/Pacific	6,313	4,414	1,899	1,212	156,946
Latin America/Caribbean	1,959	1,632	327	208	42,971
Total international	22,690	15,172	7,518	5,203	594,051
North America ^(a)	73,879	46,861	27,018	19,530	1,896,921
Total	\$ 96,569	\$ 62,033	\$ 34,536	\$ 24,733	\$ 2,490,972

(a) Substantially reflects the U.S.

(b) Revenue is composed of net interest income and noninterest revenue.

(c) Effective January 1, 2018, the firm adopted the revenue recognition guidance. The revenue recognition guidance was applied retrospectively and, accordingly, prior period amounts were revised. For additional information, refer to Note 1.

(d) Expense is composed of noninterest expense and the provision for credit losses.

(e) Total assets for the U.K. were approximately \$296 billion, \$309 billion, and \$310 billion at December 31, 2018, 2017 and 2016, respectively.

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

In addition to providing summary financial information regarding JPMorgan Chase, the resolution rules require summary financial information of JPMorgan Chase's material U.S. banking subsidiaries to be included in the public section of this filing. The following is summary financial information as of December 31, 2018 and 2017 for JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A.

The tables below highlight selected information from JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. 2018 and 2017 call reports as required by the Federal Reserve and FDIC resolution plan rules. For the most complete, updated description of most of the topics covered in this filing, including financial information regarding assets, liabilities, capital and major funding sources, JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A. call reports should be read in their entirety.

Figure 37. JPMorgan Chase Bank, N.A. – Consolidated Balance Sheets

December 31, (in millions)	2018	2017
Assets		
Cash and balances due from depository institutions	\$321,590	\$464,923
Securities	260,071	247,038
Federal funds sold and securities purchased under agreements to resell	320,811	194,223
Loans and lease financing receivables	874,492	817,764
Trading assets	264,334	249,031
Premises and fixed assets (including capitalized leases)	12,376	11,527
Other real estate owned	342	402
Investments in unconsolidated subsidiaries and associated companies	65	101
Direct and indirect investments in real estate ventures	8,063	8,039
Intangible assets	33,558	33,570
Other assets	123,258	114,160
Total assets	\$2,218,960	\$2,140,778
Liabilities		
Deposits	\$1,558,027	\$1,534,907
Federal funds purchased and securities sold under agreements to repurchase	107,809	94,692
Trading liabilities	113,857	96,601
Other borrowed money (includes mortgage indebtedness and obligations under capitalized leases)	121,687	111,244
Subordinated notes and debentures	301	313
Other liabilities	102,936	91,175
Total liabilities	2,004,617	1,928,932
Stockholders' equity	214,343	211,846
Total liabilities and stockholders' equity	\$2,218,960	\$2,140,778

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

Figure 38. JPMorgan Chase Bank, N.A. – Selected Income from Foreign Offices

December 31, (in millions)	2018	2017
Total interest income in foreign offices	\$11,804	\$9,091
Total interest expense in foreign offices	7,251	3,883
Provision for loan and lease losses in foreign offices	19	161
Noninterest income in foreign offices	19,243	15,988
Realized gains (losses) on held-to-maturity and available-for-sale securities in foreign offices	539	364
Total noninterest expense in foreign offices	16,218	14,667
Net income attributable to foreign offices before internal allocations of income and expense	6,276	1,732
Consolidated net income attributable to foreign offices	4,382	440

Figure 39. Chase Bank USA, N.A. – Consolidated Balance Sheets

December 31, (in millions)	2018	2017
Assets		
Cash and balances due from depository institutions	\$7,956	\$19,316
Securities	—	—
Federal funds sold and securities purchased under agreements to resell	—	220
Loans and lease financing receivables	105,020	105,013
Trading assets	—	—
Premises and fixed assets (including capitalized leases)	266	270
Other real estate owned	—	—
Investments in unconsolidated subsidiaries and associated companies	—	—
Direct and indirect investments in real estate ventures	—	—
Intangible assets	12,412	12,424
Other assets	6,536	6,558
Total assets	\$132,190	\$143,801
Liabilities		
Deposits	\$49,035	\$52,716
Federal funds purchased and securities sold under agreements to repurchase	—	—
Trading liabilities	—	—
Other borrowed money (includes mortgage indebtedness and obligations under capitalized leases)	34,505	40,990
Subordinated notes and debentures	3,500	4,650
Other liabilities	8,545	10,979
Total liabilities	95,585	109,335
Stockholders' equity	36,605	34,465
Total liabilities and stockholders' equity	\$132,190	\$143,801

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

Figure 40. Chase Bank USA, N.A. – Selected Income from Foreign Offices

December 31, (in millions)	2018	2017
Total interest income in foreign offices	\$ —	\$ —
Total interest expense in foreign offices	—	—
Provision for loan and lease losses in foreign offices	—	—
Noninterest income in foreign offices	—	—
Realized gains (losses) on held-to-maturity and available-for-sale securities in foreign offices	—	—
Total noninterest expense in foreign offices	\$ —	\$ —
Net income attributable to foreign offices before internal allocations of income and expense	—	—
Consolidated net income attributable to foreign offices	—	—

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

In addition to providing summary financial information on a consolidated basis regarding JPMorgan Chase, JPMCB and CUSA, the following table highlights total assets, total liabilities, total net revenue and net income as of December 31, 2018, for the remaining material legal entities on a standalone basis.

Figure 41. Remaining Material Legal Entities – Selected Financial Metrics

December 31, 2018 (\$ in millions) ^(a)	Total Assets	Total Liabilities	Total Net Revenue	Net Income
JPMCB Bank Branches				
JPMorgan Chase Bank, N.A. – London Branch	\$291,573	\$291,361	\$7,138	\$567
JPMorgan Chase Bank, N.A. – Hong Kong Branch	14,311	14,298	1,177	136
JPMorgan Chase Bank, N.A. – PGSC	277	23	305	20
JPMorgan Chase Bank, N.A. – Singapore Branch	23,296	23,298	1,096	73
JPMorgan Chase Bank, N.A. – Sydney Branch	13,406	13,396	371	22
JPMorgan Chase Bank, N.A. – Tokyo Branch	30,195	30,203	151	(20)
JPMCB Subsidiaries				
J.P. Morgan AG	\$23,057	\$20,305	\$169	\$9
J.P. Morgan Treasury Technologies Corporation	848	48	1,084	646
JPMorgan Securities Japan Co., Ltd.	53,173	51,287	684	9
J.P. Morgan Securities plc	414,430	369,079	9,485	3,008
Paymentech, LLC	10,823	8,433	1,064	(149)
J.P. Morgan International Bank Limited	15,658	14,412	511	13
Chase Paymentech Europe Limited	2,661	1,769	171	73
Chase Paymentech Solutions Inc.	1,068	103	196	115
J.P. Morgan Bank Luxembourg S.A.	23,498	19,901	544	194
IHC and Subsidiaries				
J.P. Morgan Chase Holdings LLC	\$239,783	\$4,396	\$13,071	\$12,315
J.P. Morgan Services India Private Limited	1,197	178	1,217	73
J.P. Morgan Securities LLC	479,974	470,783	14,689	4,932
JPMorgan Asset Management (Europe) S.a.r.l.	2,681	2,094	2,233	159
JPMorgan Asset Management (UK) Limited	1,375	365	1,220	259
JPMorgan Distribution Services, Inc.	524	80	860	57
J.P. Morgan Investment Management Inc.	3,748	1,358	3,496	820
CUSA Subsidiaries				
Chase BankCard Services, Inc.	654	23	1,007	72
Chase Issuance Trust	30,913	30,913	3,531	—

(a) Financial Information is being presented for individual entities, including branches but not consolidating subsidiaries, and follow the accounting and financial reporting policies of the firm, the basis of which is U.S. GAAP.

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

Figure 42. Transitional and Fully Phased-In Risk-Based and Leverage-Based Capital Metrics

December 31, 2018 (in millions, except ratios)	Transitional / Fully Phased-In ^(c)		Transitional	Fully Phased-In
	Standardized	Advanced	Minimum Capital Ratios	Minimum Capital Ratios
Risk-based capital metrics:				
CET1 capital	\$183,474	\$183,474		
Tier 1 capital	209,093	209,093		
Total capital	237,511	227,435		
Risk-weighted assets	1,528,916	1,421,205		
CET1 capital ratio	12.0 %	12.9 %	9.0 %	10.5 %
Tier 1 capital ratio	13.7	14.7	10.5	12.0
Total capital ratio	15.5	16.0	12.5	14.0
Leverage-based capital metrics:				
Adjusted average ^(a) assets	\$2,589,887	\$2,589,887		
Tier 1 leverage ratio	8.1 %	8.1 %	4.0 %	4.0 %
Total leverage exposure	NA	\$3,269,988		
SLR ^(b)	NA	6.4 %	NA	5.0 % ^(b)

December 31, 2017 (in millions, except ratios)	Transitional			Fully Phased-In		
	Standardized	Advanced	Minimum Capital Ratios	Standardized	Advanced	Minimum Capital Ratios
Risk-based capital						
CET1 capital	\$183,300	\$183,300		\$183,244	\$183,244	
Tier 1 capital	208,644	208,644		208,564	208,564	
Total capital	238,395	227,933		237,960	227,498	
Risk-weighted assets	1,499,506	1,435,825		1,509,762	1,446,696	
CET1 capital ratio	12.2 %	12.8 %	7.5 %	12.1 %	12.7 %	10.5 %
Tier 1 capital ratio	13.9	14.5	9.0	13.8	14.4	12.0
Total capital ratio	15.9	15.9	11.0	15.8	15.7	14.0
Leverage-based capital metrics:						
Adjusted average ^(a) assets	2,514,270	2,514,270		2,514,822	2,514,822	
Tier 1 leverage ratio	8.3 %	8.3 %	4.0 %	8.3 %	8.3 %	4.0 %
Total leverage exposure	NA	\$3,204,463		NA	\$3,205,015	
SLR	NA	6.5 %	NA	NA	6.5 %	5.0 % ^(b)

(a) Adjusted average assets, for purposes of calculating the Tier 1 leverage ratio, includes total quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill and other intangible assets.

(b) Effective January 1, 2018, the SLR was fully phased-in under Basel III. The December 31, 2017 amounts were calculated under the Basel III Transitional rules.

(c) The firm's capital ratios as of December 31, 2018, were equivalent whether calculated on a transitional or fully phased-in basis.

Regulatory Capital

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the consolidated financial holding company. The OCC establishes similar minimum capital requirements for the firm's national banks, including JPMCB and, before its merger, CUSA. The U.S. capital requirements generally follow the Capital Accord of the Basel Committee, as amended from time to time.

Basel III Overview

Capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. BHCs and banks, including the firm and its IDI subsidiaries. Basel III sets forth two comprehensive approaches for calculating RWA: a standardized approach, and an advanced approach. Certain of the requirements of Basel III were subject to phase-in periods that began on January 1, 2014, and continued through the end of 2018. While the required capital remained subject to the transitional rules during 2018, the firm's capital ratios as of December 31, 2018, were equivalent whether calculated on a transitional or fully phased-in basis.

Basel III establishes capital requirements for calculating credit risk RWA and market risk RWA, and in the case of Basel III Advanced, operational risk RWA. Key differences in the calculation of credit risk RWA between the Standardized and Advanced Approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings, which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized and Basel III Advanced. In addition to the RWA calculated under these methodologies, the firm may supplement such amounts to incorporate management judgment and feedback from its regulators.

Basel III also includes a requirement for Advanced Approach banking organizations, including the firm, to calculate the SLR. For additional information on the SLR, refer to page 91 in JPMorgan Chase's 2018 Annual Report on Form 10-K.

Key Regulatory Developments

Banking supervisors globally continue to consider refinements and enhancements to the Basel III capital framework for financial institutions, and in December 2017, the Basel Committee issued Basel III: Finalizing post-crisis reforms. The Basel Committee expects national regulatory authorities to implement the Basel III reforms in the laws of their respective jurisdictions and to require banking organizations subject to such laws to meet most of the revised requirements by January 1, 2022, with certain elements being phased in through January 1, 2027.

In April 2018, the Federal Reserve proposed the introduction of a stress buffer framework that would create a single, integrated set of capital requirements by combining the supervisory stress test results of the CCAR assessment and those under the Dodd-Frank Act with current point-in-time capital requirements. The U.S. banking regulators will be proposing final requirements applicable to U.S. financial institutions.

Also in April 2018, the Federal Reserve and the OCC released a proposal to revise the enhanced SLR requirements applicable to the U.S. G-SIBs and their IDIs, and to make conforming changes to the rules which are applicable to U.S. G-SIBs relating to TLAC and external long-term debt that must satisfy certain eligibility criteria.

The following table presents reconciliations of total stockholders' equity to Basel III fully phased-in CET1 capital, Tier 1 capital and Basel III Advanced and Standardized fully phased-in total capital as of December 31, 2018 and 2017. For additional information on the components of regulatory capital, see note 26 in JPMorgan Chase's 2018 Annual Report.

Other Required Financial Information Disclosures in the Public Filing

Summary Financial Information

Figure 43. Capital Components

(in millions)	December 31, 2018	December 31, 2017
Total stockholders' equity	\$256,515	\$255,693
Less: Preferred stock	26,068	26,068
Common stockholders' equity	230,447	229,625
Less:		
Goodwill	47,471	47,507
Other intangible assets	748	855
Other CET1 capital adjustments	1,034	223
Add:		
Deferred tax liabilities ^(a)	2,280	2,204
Standardized/Advanced Fully Phased-in CET1 capital	183,474	183,244
Preferred stock	26,068	26,068
Less:		
Other Tier 1 adjustments	449	748
Standardized/Advanced Fully Phased-in Tier 1 capital	209,093	208,564
Long-term debt and other instruments qualifying as Tier 2 capital	13,772	14,827
Qualifying allowance for credit losses	14,500	14,672
Other	146	(103)
Standardized Fully Phased-In Tier 2 capital	28,418	29,396
Standardized Fully Phased-In Total capital	237,511	237,960
Adjustment in qualifying allowance for credit losses for Advanced Tier 2 capital	(10,076)	(10,462)
Advanced Fully Phased-In Tier 2 capital	18,342	18,934
Advanced Fully Phased-In Total capital	\$227,435	\$227,498

(a) Represents certain deferred tax liabilities related to tax-deductible goodwill and identifiable intangibles created in nontaxable transactions, which are netted against goodwill and other intangibles when calculating TCE.

Line of Business Equity

Each business segment is allocated capital by taking into consideration capital levels of similarly rated peers and applicable regulatory capital requirements. Return on equity is measured and internal targets for expected returns are established as key measures of a business segment's performance.

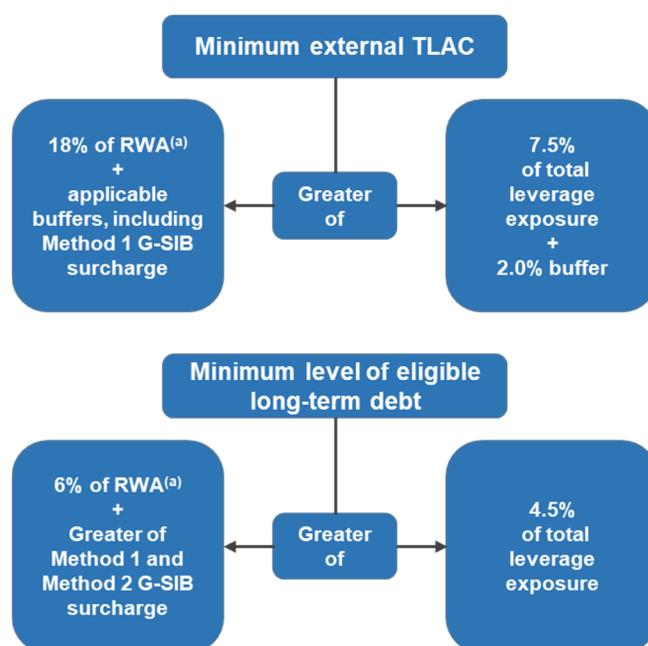
The firm's allocation methodology incorporates Basel III Standardized Approach RWA, Basel III Advanced Approach RWA, leverage, the G-SIB surcharge and a simulation of capital in a severe stress environment. On at least an annual basis, the assumptions and methodologies used in capital allocation are assessed and as a result, the capital allocated to lines of business may change. As of January 1, 2019, line of business capital allocations have increased due to a combination of changes in the relative weights toward Standardized RWA and stress, a higher capitalization rate, updated stress simulations and general business growth.

Other Capital Requirements

Total Loss Absorbing Capacity (TLAC)

On December 15, 2016, the Federal Reserve issued its final TLAC rule which requires the top-tier holding companies of eight U.S. G-SIB holding companies, including the firm, to maintain minimum levels of external TLAC and external long-term debt that satisfies certain eligibility criteria, effective January 1, 2019.

The minimum external TLAC and the minimum level of eligible long-term debt requirements are shown below:



^(a) RWA is the greater of Standardized and Advanced.

Failure to maintain TLAC equal to or in excess of the regulatory minimum plus applicable buffers may result in limitations to the amount of capital that the firm may distribute, such as through dividends and common equity repurchases.

The final TLAC rule permanently grandfathered all long-term debt issued before December 31, 2016, to the extent these securities would be ineligible because they contained impermissible acceleration rights or were governed by non-U.S. law. As of December 31, 2018, the firm exceeded the minimum requirements under the rule to which it became subject to on January 1, 2019.

Glossary

Term	Definition
165(d) Rule	Joint FDIC and Federal Reserve rule promulgated pursuant to Section 165(d) of the Dodd-Frank Act requiring the submission of resolution plans for certain bank holding companies and nonbank financial institutions
1934 Act	Securities Exchange Act of 1934
2015 Resolution Plan	Resolution plan submitted by JPMC to the Agencies by July 1, 2015 pursuant to Section 165(d)
2018 Annual Report or 2018 Form 10-K	JPMorgan Chase's annual report on Form 10-K for year ended December 31, 2018, filed with the SEC
2017 Public Filing	The public portion of the 2017 Resolution Plan
2017 Resolution Plan	Resolution plan submitted by JPMC to the Agencies by July 1, 2017 pursuant to Section 165(d)
2019 Resolution Plan	Resolution plan submitted by JPMC to the Agencies by July 1, 2019 pursuant to Section 165(d)
ACH	Automated clearing house
Advanced RWA	Advanced Approach to Third Basel Accord by the Basel Committee on Banking Supervision
Agencies	The Federal Reserve and FDIC
ALCO	Asset Liability Committee
Asset & Wealth Management or AWM	Asset & Wealth Management line of business or Object of Sale, as indicated in this Public Filing
Asset Management	JPMC's Asset Management sub-line of business or Object of Sale, as indicated in this Public Filing
ATM	Automated teller machine
Auto	JPMC's Auto sub-line of business, or JPMC's Auto Object of Sale

Term	Definition
Bankruptcy Playbook	A step-by-step bankruptcy execution plan setting forth the actions that would be taken in a resolution scenario in order to implement the Preferred Strategy; also includes a document completion guide and a guide to key components of the ISDA Protocols
Basel III	Third Basel Accord by the Basel Committee
Basel Committee	Basel Committee on Banking Supervision
BHC	Bank holding company
Board	Board of directors
BP2S	BNP Paribas Securities Services SCA
Brexit	The expected departure of the U.K. from the European Union
Business as Usual	The period during which JPMorgan Chase is considered to be operating normally and none of the triggers associated with recovery or resolution plan actions have occurred
Capital Governance Committee	JPMorgan Chase's committee that oversees the capital adequacy assessment process
Capital and Liquidity Management	A function within the office of the CFO
CBL	Clearstream Bank S.A.
CBS	Chase BankCard Services, Inc.
CCAR	Comprehensive Capital Analysis and Review
CCO	JPMC's Chief Compliance Officer
CEO	JPMC's Chief Executive Officer
CET1	Common equity tier 1 capital, as defined in 12 C.F.R. Part 217
CFO	JPMC's Chief Financial Officer
CFTC	U.S. Commodity Futures Trading Commission
CHAPS	The Clearing House Automated Payment System
CHAIT	Chase Issuance Trust

Term	Definition
CHAPS Co.	CHAPS Clearing Company Limited
CHIPS	The Clearing House Interbank Payments System
CIB Advisory	Subject-matter experts within Corporate & Investment Bank
CIO	Chief Investment Office
CLS	Continuous linked settlement
CLS Bank	CLS Bank International
CME	Chicago Mercantile Exchange Inc.
Commercial Banking	Commercial Banking line of business
Commercial Term Lending	JPMC's Commercial Term Lending sub-line of business or Object of Sale, as indicated in this Public Filing
Consumer & Community Banking or CCB	Consumer and Community Banking line of business
Consumer/Business Banking or CBB	JPMC's Consumer/Business Banking sub-line of business
Consumer, Community & Commercial Banking	A new line of business formed during resolution by combining Commercial Banking and Consumer & Community Banking; Consumer, Community & Commercial Banking would then be divided into seven regional Objects of Sale
Contingency Capital Plan	JPM Group's Contingency Capital Plan
Contingency Funding Plan	JPM Group's Contingency Funding Plan
Continuous Net Settlement	NSCC's core netting, allotting and fail-control engine; each security is netted to one position per participant, with NSCC as its central counterparty
Corporate	Corporate line of business
Corporate & Investment Bank or CIB	Corporate & Investment Bank line of business
Corporate Client Banking	JPMC's Corporate Client Banking sub-line of business
Corporate Treasury	JPMC's Corporate Treasury

Term	Definition
Credit Card	JPMC's Credit Card sub-line of business or Object of Sale, as indicated in this Public Filing
Crisis Management Communications Plan	JPMorgan Chase's crisis management communications strategy
Crisis Management Framework	Framework to support the JPMC Resolution Plan, designed around our resolution strategy, capital and liquidity resources and operational resilience
Critical Operations	Operations of JPMorgan Chase identified by the Agencies, including associated services, functions and support, the failure or discontinuance of which could pose a significant threat to the financial stability of the United States
Critical Services	Services deemed to provide material operational support to one or more Critical Operation or LOB
Critical Shared Services	The Critical Operations, which act as central utilities for the Firm, the Critical Corporate Shared Services, and the essential, centrally managed LOB staff functions necessary to support the Critical Operations or another LOB
CRO	JPMC's Chief Risk Officer
CTC Risk Committee	CIO, Treasury and Corporate Risk Committee
CUSA	Chase Bank USA, N.A.
CUSA Bank Chain	CUSA and its subsidiaries, collectively
Custody & Fund Services	JPMC's Custody & Fund Services sub-line of business or Object of Sale, as indicated in this Public Filing
Default Under Specified Transaction Provision	Cross-default provision under the ISDA Master Agreement that is triggered by a default by a "Specified Entity" under one or more "Specified Transactions," as those terms are defined in the ISDA Master Agreement

Term	Definition
Deficiency	An aspect of JPMC's 2015 Resolution Plan that the Agencies jointly determined presented a weakness that individually, or in conjunction with other aspects, could undermine the feasibility of JPMC's Resolution Plan, and was required to be remediated by October 1, 2016
DFAST	Dodd-Frank Act Stress Test
Directors Risk Policy Committee	The risk policy committee of the JPMC Board, which has authority over JPMC, JPMCB and IHC
Discount Window	The Federal Reserve Discount Window
Divestiture Playbook	Playbooks that collectively provide a clear road map to divest the Objects of Sale
Dodd-Frank Act	The Dodd-Frank Wall Street Reform and Consumer Protection Act
DRPC	The JPMC Board of Directors' Risk Policy Committee
DTC	The Depository Trust Company
DTCC	The Depository Trust & Clearing Corporation
EBA Clearing	The trading name of ABE Clearing S.A.S
Edge Act	1919 Amendment to the Federal Reserve Act of 1913
Emergency Transfer Motion	An emergency motion to, among other things, transfer the interests of IHC to NewCo and the stock of JPMCB to IHC (and indirectly to NewCo and the Trust), to be filed immediately after commencement of JPMC's Chapter 11 Proceedings
EPN	Electronic Payments Network
Equities	JPMC's Equities sub-line of business
EU	European Union
EUI	Euroclear UK & Ireland (formerly CREST)
Euroclear	Euroclear Bank
FDIC	Federal Deposit Insurance Corporation

Term	Definition
FedACH	FedACH Services
Federal Reserve	Board of Governors of the Federal Reserve System
Fedwire Funds	Fedwire Funds Service
Fedwire Securities	Fedwire Securities Service
FHLB	Federal Home Loan Banks
FICC	Fixed Income Clearing Corporation
Filing Preparation Period	Period that commences with the occurrence of a Filing Preparation Period Trigger and ends upon the onset of Resolution Weekend
Filing Preparation Period Trigger	The trigger indicating the onset of the Filing Preparation Period
Final Guidance	Guidance issued by the Agencies in December 2018.
First Day Papers	Documents relevant to the commencement of JPMC's Chapter 11 Proceedings, including the Routine First Day Motions
Fixed Income	JPMC's Fixed Income sub-line of business
FMU	Financial market utility
FMU/Agent Bank Playbooks	Detailed playbooks for JPM Group's key FMUs and agent banks, which cover the specific operational processes, communications and other actions, including contingency actions and alternative strategies, that could be taken in order to respond to potential adverse actions by an FMU or agent bank
FREs	Firmwide Risk Executives
FX	Foreign exchange
G10	Belgium, Canada, France, Germany, Italy, Japan, Netherland, Sweden, Switzerland, United Kingdom and United States
General Counsel	JPMC's General Counsel

Term	Definition
Global Banking	JPMC's Global Banking Object of Sale that includes Global Investment Banking, Treasury Services and Global Lending Business
Global Clearing	JPMC's Global Clearing sub-line of business
Global Investment Banking	JPMC's Global Investment Banking sub-line of business
Global Lending	JPMC's Global Lending sub-line of business
Global Lending Portfolio	JPMC's Global Lending Portfolio Object of Sale
Governance Playbooks	An MLE's governance playbook describing the major decisions the relevant Board and senior management will need to make and actions they will need to take to facilitate JPMorgan Chase's Preferred Strategy applicable to such entity
G-SIB	Global systemically important bank
Guarantee Obligations	JPMC's guarantee or credit support obligations of certain Qualified Financial Contracts which the Covered Subsidiaries' counterparties will have the contractual right to close out based on the commencement of JPMC's bankruptcy case
Home Lending	JPMC's Home Lending sub-line of business
HQLA	High Quality Liquid Assets
HR	Human resources
Hypothetical Loss Scenario	Hypothetical scenario in which JPMorgan Chase is modeled for purposes of resolution planning to suffer extraordinary and severe capital losses and liquidity outflows
Hypothetical Resolution Scenario	JPM Group modeled hypothetical resolution scenario for the 2019 Resolution Plan
IDI	Insured depository institution
IHC	JPMorgan Chase Holdings LLC
IHC Chain	IHC and subsidiaries
IP	Intellectual property
IPO	Initial public offering

Term	Definition
ISDA	International Swaps and Derivatives Association, Inc.
ISDA Master Agreements	Master agreement published by the International Swaps and Derivatives Association
ISDA Protocols	The 2018 ISDA U.S. Resolution Stay Protocol and 2015 ISDA Universal Resolution Stay Protocol
IT	Information technology
JPM Liquidity Stress Framework	Framework designed to measure liquidity risk to ensure that JPM has sufficient liquidity resources to meet minimum operating liquidity and peak cash outflows
JPM Stress	The JPM Group internal stress testing framework is designed to measure the sufficiency of liquidity available to the firm to meet outflows over 90- and 365-day periods under stressed conditions; stress tests utilize peak cumulative outflows that occur within the prescribed time horizons
JPMAG	J.P. Morgan AG
JPMBL	JPM Bank Luxembourg
JPMC	JPMorgan Chase & Co.
JPMCB	JPMorgan Chase Bank, N.A.
JPMCB Bank Chain	JPMCB and its branches and subsidiaries
JPMCB London Branch	JPMorgan Chase Bank, N.A. – London Branch
JPMCB New York Branch	JPMorgan Chase Bank, N.A. – New York Branch
JPMCB PGSC	JPMCB Philippine Global Service Center

Term	Definition
JPMC Information Security Program	Gramm-Leach-Bliley's 501(b) Information Security Program Standards (GLBA) require financial institutions to develop, implement, and maintain a comprehensive Information Security Program to protect the security, confidentiality, and integrity of customer information. The Program must include administrative, technical, and physical safeguards. The Program encompasses the governance, policies, processes, assessments, controls, testing, and training efforts required by GLBA.
JPMIB	J.P. Morgan International Bank Limited
JPMorgan Chase or JPM Group	JPMC and its subsidiaries
JPMorgan Chase Recovery and Resolution Executive	A senior officer who has responsibility for recovery and resolution planning at JPMorgan Chase
JPMS LLC	J.P. Morgan Securities LLC
JPMS plc	J.P. Morgan Securities plc
JPMSIPL	J.P. Morgan Services India Private Limited
JPMSJ	JPMorgan Securities Japan Co., Ltd.
JPMTTC	J.P. Morgan Treasury Technologies Corporation
Jurisdictional Modular Protocol	ISDA Resolution Stay Jurisdictional Modular Protocol
Key Operating Entities	Material Legal Entities other than JPMC or IHC
LCH Ltd	LCH.Clearnet Limited
LCH SA	LCH.Clearnet SA
LCR	Liquidity coverage ratio
LER Criteria	The factors used by JPMC to evaluate its legal entities from a resolvability perspective
Limit and Indicators Policy	JPMorgan Chase's firmwide limit and indicator policy
Liquidity Risk Oversight	JPMC's Liquidity Risk Oversight function
LTD	Long-term debt

Term	Definition
Master Playbook	Playbook that brings together all of JPMC's resolution-related playbooks and plans
Material Legal Entity or MLE	A subsidiary or branch of JPMorgan Chase that meets the definition of "material entity" under the relevant regulations
Merchant Services	JPMC's Merchant Services sub-line of business or Object of Sale, as indicated in this Public Filing
Middle Market Banking	JPMC's Middle Market Banking sub-line of business
MIS	Management Information Systems
Mortgage Servicing Rights	JPMC's Mortgage Servicing Object of Sale
NewCo	A holding company subsidiary of JPMC with no third-party debt created to receive and hold the interests of IHC after the failure of JPMC
NSCC	National Securities Clearing Corporation
NSFR	Net stable funding ratio
Objects of Sale	Components of JPMorgan Chase's businesses that JPMC believes are the most promising to be absorbed by the market in a timely and orderly manner in the case of its resolution
Objects of Unwind	Components of JPM Group's businesses that JPMC believes would unwound in the case of its resolution
OCC	Office of the Comptroller of the Currency
Operating Committee	JPMC's operating committee
OTC	Over the counter
Other Corporate	Sub-segment of Corporate line of business; includes corporate staff units and expense that is centrally managed

Term	Definition
Parent Final Contribution	JPMC's final contribution to IHC of nearly all of its remaining assets (with the exception of a holdback and certain excluded assets, including shares of JPMCB and interests of IHC) under the Support Agreement upon the occurrence of a Point of Non-Viability
Paymentech	Paymentech, LLC
Paymentech Entities	Paymentech, LLC, Chase Paymentech Solutions and Chase Paymentech Europe Limited
Point of Non-Viability	The point in time at which sufficient financial resources remain at the Key Operating Entities and IHC to carry out the Single Point of Entry strategy. This event is related to the secured Support Agreement, which contractually obligates our parent company to downstream resources to IHC at the Point of Non Viability, thereby assisting in timing our parent company's bankruptcy filing appropriately to preserve the continued viability of our Key Operating Entities.
Portfolio of Auto Loans	JPMC's Portfolio of Auto Loans Object of Sale
Portfolio of CTL Loans	JPMC's Portfolio of CTL Loans Object of Sale
Portfolio of Non-Trust Credit Card Loans	JPMC's Portfolio of Non-Trust Credit Card Loans Object of Sale
Post-Resolution Event Period	The period beginning on the first business day after JPMC files for bankruptcy and lasting until JPMC's Chapter 11 Proceedings are concluded
Preferred Strategy	Single Point of Entry resolution strategy underlying the Resolution Plan
Prime Finance	JPMC's Prime Finance sub-line of business or Object of Sale, depending on the context
Prime Brokerage and Retail Brokerage Account Transfer Playbook	Playbook with specific steps by which JPM would timely and orderly transfer prime brokerage accounts to peer prime brokers
Public Filing	The public portion of JPMC's Resolution Plan

Term	Definition
Qualified Financial Contracts	Certain common financial transactions such as agreements for derivatives, securities lending transactions and repurchase, or repo, transactions, subject to the ISDA Protocol
Qualified Financial Contracts Stay Rules	Rules adopted by the U.S. banking regulators to facilitate the orderly reorganization or resolution of systemically important financial institutions
Rating Agency Playbooks	Playbooks for maintaining, reestablishing or establishing investment-grade ratings for derivatives trading entities
RBC	Royal Bank of Canada
RCAP	Resolution capital adequacy and positioning, which means the total loss absorbing capacity of JPMorgan Chase
RCEN	Resolution capital execution need, which means the amount of capital that JPMC (or an MLE) requires in order to maintain market confidence as required under the Preferred Strategy. Specifically, capital levels should meet or exceed all applicable regulatory capital requirements for “well capitalized” status and meet all estimated additional capital needs throughout a resolution scenario. MLEs that are not subject to capital requirements may be considered sufficiently recapitalized when they have achieved capital levels typically required to obtain an investment grade credit rating or, if the entity is not rated, an equivalent level of financial soundness.
Real Estate Banking	JPMC’s Real Estate Banking sub-line of business
Real Estate Portfolios	JPMC’s Real Estate Portfolios sub-line of business
Recovery Period	The period following the Stress Period and during which the recovery plan is formally activated
Recovery Plan Activation Trigger	The trigger formally activating the recovery plan

Term	Definition
Resolution Period	The period that begins immediately after JPMC's bankruptcy filing and extends through the completion of the Preferred Strategy
Resolution Weekend	The period following the Filing Preparation Period and lasting until JPMC commences Chapter 11 Proceedings
Restricted Liquidity Framework	Framework within the JPMorgan Chase legal entity stress framework for funding frictions which assesses jurisdictional, operational, counterparty and tax frictions
RLAP	Resolution liquidity adequacy and positioning, which means an appropriate model and process for estimating and maintaining sufficient liquidity at, or readily available to, MLEs in resolution
RLEN	Projection of resolution liquidity execution need, which means the total liquidity needed, as calculated, to satisfy a Supported Subsidiary's peak funding needs and minimum operating liquidity throughout a full implementation of the Preferred Strategy, taking into account intercompany funding frictions, and to continue uninterrupted operation throughout such period, or, if applicable, to implement an orderly wind-down consistent with the Resolution Plan
Routine First Day Motions	Motions customarily filed on the first day of a Chapter 11 bankruptcy case seeking relief necessary to ensure a smooth transition into bankruptcy
RWA	Risk-weighted Assets
SEC	U.S. Securities and Exchange Commission
Section 165(d)	Section 165(d) of the Dodd-Frank Act requiring the submission of resolution plans for certain bank holding companies and nonbank financial institutions, including the implementing regulations promulgated by the FDIC and the Federal Reserve thereunder

Term	Definition
Severely Adverse	One of three hypothetical, supervisory scenarios used by the Federal Reserve in supervisory stress testing
Shortcomings	Weaknesses or gaps that were not Deficiencies, but which raised questions as to the feasibility or operationalization of the Resolution Plan, and were remedied in the 2017 Resolution Plan
Single Point of Entry	Single point of entry resolution strategy where the parent company files for bankruptcy and subsidiaries receive capital and liquidity support to continue operations
SLR	Supplementary leverage ratio
Stabilization Period	A period in the Post-Resolution Event Period
Stage Triggers	JPMorgan Chase-wide liquidity and capital triggers defining the start of each stage from Business as Usual through resolution
Standardized RWA	Standardized Approach to Third Basel Accord by the Basel Committee on Banking Supervision
Stress Period	The period beginning upon the occurrence of a Stress Period Trigger and ending upon the onset of the Filing Preparation Period
Support Agreement	Secured support agreement pursuant to which IHC and JPMCB, as applicable, will provide capital and/or liquidity support to the Key Operating Entities
Support Period	The period during which a Key Operating Entity may receive a capital and/or liquidity support pursuant to, and in accordance with the terms of, the Support Agreement
Support Trigger	A point during the Support Period at which a Supported MLE has a near-term shortfall
Supported Subsidiary	Direct and indirect subsidiaries of JPMC that may receive support pursuant to the Support Agreement

Term	Definition
SWIFT	The Society for Worldwide Interbank Financial Telecommunication
TARGET2	Trans-European Automated Real-time Gross Settlement Express Transfer
TCE	Tangible Common Equity
The Clearing House	The Clearing House Payments Company LLC
Tier 1 Common Equity	Tier 1 capital, as defined in 12 C.F.R. Part 217
TLAC	Total loss absorbing capacity
Treasury and CIO	JPMC's Treasury and CIO sub-line of business
Treasury Services	JPMC's Treasury Services sub-line of business
Trust	An independent private trust overseen by a trustee approved by a bankruptcy court solely for the benefit of the JPMC's Chapter 11 estate
U.K.	United Kingdom
U.S. Bankruptcy Code	Title 11 of the United States Code
U.S. GAAP	The SEC's Generally Accepted Accounting Principles
U.S. Treasuries	Securities issued by the U.S. Treasury
U.S. Treasury	U.S. Department of the Treasury
Wealth Management	JPMC's Wealth Management sub-line of business or Object of Sale, as indicated in this Public Filing

Our resolution plan reflects the actions that we believe we and other stakeholders would take in a resolution event, but is hypothetical, and not binding upon the firm, a bankruptcy court or other resolution authority.

JPMorgan Chase files annual, quarterly and current reports, and proxy statements and other information with the SEC. These periodic reports and other information filed or furnished with the SEC, as they become available, can be viewed on the SEC's website at www.sec.gov and on JPMorgan Chase's investor relations website at <http://investor.shareholder.com/jpmorganchase/>.

This document and certain of the SEC reports referred to above contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. Actual results may differ from those set forth in the forward-looking statements. Factors that could cause JPMorgan Chase's actual results to differ materially from those described in the forward-looking statements can be found in the 2018 Form 10-K and JPMorgan Chase's Quarterly Reports on Form 10-Q filed with the SEC. JPMorgan Chase does not undertake to update the forward-looking statements to reflect the impact of circumstances or events that may arise after the date of the forward-looking statements.

