April 16, 2014

By electronic submission to www.federalreserve.gov

Mr. Robert deV. Frierson
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, N.W.
Washington, D.C. 20551

Re: **Comment Letter on the Advance Notice of Proposed Rulemaking on Complementary Activities, Merchant Banking Activities, and Other Activities of Financial Holding Companies Related to Physical Commodities (Docket No. R-1479; RIN 7100 AE-10)**

Ladies and Gentlemen:

The Securities Industry and Financial Markets Association ("**SIFMA**"), The American Bankers Association, Financial Services Forum, Financial Services Roundtable and Institute of International Bankers (collectively, the "**Associations**")[1] welcome the opportunity to comment on the Advance Notice of Proposed Rulemaking issued by the Board of Governors of the Federal Reserve System (the "**Board**"), entitled Complementary Activities, Merchant Banking Activities, and Other Activities of Financial Holding Companies Related to Physical Commodities, and published in the Federal Register on January 21, 2014 (the "**Notice**").[2]

The Notice announced that the Board has commenced a review of the authority of financial holding companies ("**FHCs**") to engage in physical commodities activities[3] under the

[1] *See* Appendix H for a description of each of the Associations.

[2] 79 Fed. Reg. 3329 (Jan. 21, 2014). The Associations also participated in the preparation of and endorse the comment letter prepared by The Clearing House Association L.L.C. and submitted jointly with The American Bankers Association, Financial Services Forum, Financial Services Roundtable and Institute of International Bankers.

[3] *Id.* at 3330; Statement of Michael S. Gibson, Director, Division of Banking, Supervision and Regulation, *Physical Commodities*, Hearing Before the Subcommittee on Financial Institutions and Consumer Protection, Senate Committee on Banking, Housing, and Urban Affairs (Jan. 15, 2014) (announcing that "[t]he Federal Reserve has

Bank Holding Company Act of 1956 (the "**BHC Act**").[4] According to the Notice, "the activities under review include physical commodities activities that have been found to be 'complementary to a financial activity' under section 4(k)(1)(B) of the [BHC Act] ["**Complementary Commodities Activities**"], investment activity [in commodities portfolio companies] under section 4(k)(4)(H) of the BHC Act ["**Merchant Banking Commodities Investments**"], and physical commodity activities grandfathered under section 4(o) of the BHC Act ["**Grandfathered Commodities Activities**"]."[5]

The Notice invited "public comment on various issues related to physical commodity activities conducted by [FHCs] and the restrictions imposed on these activities to ensure they are conducted in a safe and sound manner and consistent with applicable law."[6] The Notice specifically invited comments on "the risks and benefits of allowing FHCs to conduct physical commodity activities under the various provisions of the BHC Act"[7] and especially what it described as "the unique and significant risks that physical commodities activities may pose to financial holding companies, their insured depository institution ["**IDI**"] affiliates, and U.S. financial stability."[8] It expressed particular concern about the "tail risks"[9] associated with "environmentally sensitive commodities" such as oil, natural gas and nuclear power, which were described as "unique in type, scope and size" because they can "cause fatalities and economic damages well in excess of the market value of the commodities involved or the committed capital and insurance policies of market participants."[10] Specifically, it noted that "recent events (including the financial crisis) demonstrate that low probability events [*i.e.*, tail risks] can pose a danger to large organizations as well as to the financial stability of the United States."[11] For example, the Notice suggested that merchant banking investments in portfolio companies that own or operate "factories that use substances that are hazardous to public health or the

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been conducting a detailed policy review of the commodities activities and investments of financial holding companies.").

[4] Bank Holding Company Act of 1956, Pub. L. No. 84-511, 70 Stat. 133 (codified as amended at 12 U.S.C. §§ 1841-1850).

[5] 79 Fed. Reg. at 3329.

[6] *Id.*

[7] *Id*. at 3330.

[8] *Id*. at 3329.

[9] Tail risk refers to a low-probability event that is represented by a data point in the left tail (probability of losses) of a statistical distribution curve of gains and losses from a particular activity. PIMCO, *Understanding Tail Risk* (2013).

[10] 79 Fed. Reg. at 3331. *See* Nassim Nicholas Taleb, THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE (2007) (describing how low probability events can result in losses that are much larger than the expected value at risk because the probability of loss has been underestimated). When the probability of an event is higher than expected, the left tail (probability of losses) of a statistical distribution curve of gains and losses is fatter than expected. PIMCO, *supra* note 9.

[11] 79 Fed. Reg. at 3335.

environment" may expose an FHC to risks that "greatly exceed the [portfolio] company's equity."[12]

Observing that all but one of the FHCs currently permitted to engage in physical commodities activities in the United States have been designated as global systemically important banking groups ("**G-SIBs**"),[13] the Notice also expressed concern that such tail risk, when combined with the interest of G-SIBs in preserving their reputations, could result in the sort of market contagion that destabilized the U.S. financial system in 2008.[14]

Finally, the Notice requested comment on whether the Complementary Commodities Activities involved any conflicts of interest that are not addressed by existing law,[15] and whether the potential adverse effects from the Complementary Commodities Activities, such as undue concentration of resources, decreased or unfair competition, conflicts of interest, unsound banking practices, or risk to the stability of the United States, outweigh their public benefits.[16]

According to the Notice, a review of the physical commodities activities conducted by FHCs is timely because the scope and volume of such activities have increased significantly since enactment of the Gramm-Leach-Bliley Act of 1999 (the "**GLB Act**"),[17] and especially since 2007,[18] while during the same period "a variety of events and developments . . . suggest that the risks of conducting these activities are changing and the steps that firms may take to limit these risks are more limited."[19] This increase in the scope and volume of these activities has resulted principally from the number of FHCs that have received permission from the Board to engage in Complementary Commodities Activities since 2003,[20] the Board-approved acquisitions by FHCs of certain troubled or failing investment banking groups during the global

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[12] *Id.*

[13] *Id*. at 3332. The Financial Stability Board has designated 29 U.S. and non-U.S. banking groups as G-SIBs, including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan Chase, Morgan Stanley, Royal Bank of Scotland, Société Générale, UBS and Wells Fargo, which are all but one of the FHCs that currently have the authority to engage in physical commodities activities in the United States pursuant to either Section 4(k)(1)(B) or 4(o) of the BHC Act. Financial Stability Board, 2013 update of group of global systemically important banks (G-SIBs), Annex I (Nov. 11, 2013) (list of G-SIBs); Complementary Powers Orders, *infra* notes 81 and 82. The Bank of Nova Scotia is the only FHC that has the authority to engage in physical commodities activities in the United States, but is not a G-SIB. *See* Financial Stability Board, 2013 update of G-SIBs and *infra* note 82.

[14] *Id*. at 3331-3332, 3333.

[15] *Id*. at 3334, Question 16.

[16] *Id.* at 3334, Question 17.

[17] *Id*. at 3329-3330, 3332. Gramm-Leach-Bliley Act of 1999, Pub. L. No. 106-102, 113 Stat. 1338 (codified as amended in scattered sections of 12 U.S.C. and 15 U.S.C.).

[18] *Id.* at 3332.

[19] *Id*. at 3329-3330.

[20] *Id*. at 3332. *See infra* notes 81 and 82. The first order permitting an FHC to engage in physical commodities activities as complementary to financial activities was the 2003 Citi Order, *infra* note 81.

financial crisis of 2008,[21] and the Board-approved conversions into FHCs of the parents of certain investment banking groups during the financial crisis.[22]

In addition to requesting comment on the benefits and risks of physical commodities activities, the Notice also requested comment on whether the physical commodities activities previously determined by the Board to be complementary to financial activities continue to be complementary in light of the recent decisions by certain FHCs to sell or scale back some of their physical commodities businesses.[23]

The Board indicated that the purpose of the review is to determine "whether it is appropriate to impose limitations or conditions on the conduct of physical commodity activities by BHCs and their subsidiaries under authority granted under the BHC Act to ensure these activities are conducted in a manner that is consistent with safety and soundness and financial stability."[24] As a result, the Notice was soliciting public comment on "whether the risks to the safety and soundness of a FHC and its affiliated [IDIs] and to the financial system warrant Board action to impose limitations on the scope of authorized activities and/or the manner in which those activities are conducted, and if so, what those limits should be."[25] The Notice concluded that "[o]nce the Board has completed its review of this information, it will consider what further actions, including a rulemaking, are warranted."[26]

The Associations strongly believe that the public benefits of continuing to permit FHCs and their non-bank affiliates to engage in physical commodities activities greatly outweigh the potential risks of those activities, whether conducted under the complementary, grandfathering or merchant banking authorities.

The Associations do ***not*** believe that the tail risks associated with providing market making and other client intermediation services in physical commodities, including making or taking physical delivery of, maintaining inventories in, or contracting in the ordinary course for the storage, transportation or other handling of physical commodities ("**Commodity Intermediation Activities**"), pose "unique and [more] significant risks to financial holding companies, their insured depository institution affiliates or U.S. financial stability" than any number of other permissible banking and other financial activities, including the core banking

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[21] 79 Fed. Reg. at 3332. These Board-approved transactions included the acquisitions of Bear Stearns, Lehman Brothers and Merrill Lynch, along with their physical commodities businesses, by JPMorgan Chase, Barclays PLC and Bank of America, respectively, in March or September of 2008.

[22] *Id*. These Board-approved conversions included the conversion of the parent holding companies of Goldman Sachs and Morgan Stanley, which were engaged in extensive physical commodities activities, into FHCs in September of 2008.

[23] *Id*. at 3334 and notes 45 and 47 (mentioning the announcements by Deutsche Bank, JPMorgan Chase and Morgan Stanley to sell or scale back at least some of their physical commodities businesses).

[24] *Id*. at 3330.

[25] *Id*.

[26] *Id*. *See also* Statement of Michael S. Gibson, *supra* note 3.

activity of maturity transformation[27] or the core financial activity of market making in financial instruments. Since FHCs transact in commodities as intermediaries, they generally do not maintain net directional positions in physical commodities of a size that would be material to the institution. Furthermore, the exposure of FHCs to an unexpected decline in the market value of any inventory is limited because of regulatory limits on the size of such inventories as a percentage of consolidated Tier 1 capital or assets, as well as the enhanced Basel III capital requirements that apply to FHCs.[28] IDI affiliates are also protected against an unexpected drop in such prices by the limitations on the authority of such IDIs to acquire physical commodities and by their compliance with Sections 23A and 23B of the Federal Reserve Act, which limit their credit and other exposures to affiliates engaged in commodities activities.

Indeed, the Associations believe that the price, credit, liquidity, legal, operational and reputational risks associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are not fundamentally different from or inherently greater than the corresponding risks associated with any number of permissible banking or other financial activities, including market making in financial instruments. Moreover, the owners of the underlying commodities and the parents and other affiliates of any such companies, including those that in the ordinary course contract for the storage, transportation or other handling of physical commodities, would generally not be held liable as a result of their Commodity Intermediation Activities, unless they fail to comply with certain appropriate safeguards, such as those described in Appendix C, when appropriate to do so.

The tail risks associated with the operation of certain facilities involved in the extraction, storage, processing, transportation or other handling of environmentally sensitive commodities ("**Environmentally Sensitive Commodities Handling Activities**"), however, can be greater than the market value of the commodities or facilities involved.[29] As explained more fully in the joint memorandum of law prepared for the Associations at their request by Covington & Burling LLP, Davis Polk & Wardwell LLP, Sullivan & Cromwell LLP and Vinson & Elkins LLP (the "**Joint Memorandum of Law**") attached as Appendix B, the owners and operators of such facilities can be liable for discharges of and other incidents involving environmentally sensitive commodities under their control. The parents and other affiliates of any companies that own and operate such facilities, however, generally would not be held liable, unless they fail to comply with certain appropriate safeguards, including standards of corporate separateness, such as those described in Appendix C, when appropriate to do so. As a result, the Associations believe that FHCs can avoid or substantially mitigate the tail risks of Environmentally Sensitive Commodities Handling Activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is

[27] Maturity transformation refers to the socially beneficial process by which banks create money by taking demand deposits and using the funds raised from those activities to make long-term loans or invest in other illiquid assets, and has long been considered a core function of banks. *See infra* note 54.

[28] *See, e.g.*, 2003 Citi Order, *infra* note 81, at 510; 12 U.S.C. § 1843(o)(2); 12 C.F.R. § 217.52 (standardized approach); 12 C.F.R. §§ 217.152, 217.153 (advanced approaches).

[29] In contrast, the storage, transportation and other handling of commodities that are not environmentally sensitive, such as agricultural commodities, precious metals and most industrial metals, do not involve such tail risks.

subject to the Federal Reserve's supervision and examination and safety and soundness standards, by complying with such safeguards.

Although we agree that the volume of physical commodities activities conducted by FHCs and their non-banking affiliates has continued to change since 1999, the Associations do not believe that the volume of these activities has only risen steadily or, for the reasons set forth in Appendix B, that "the steps that firms may take to limit these risks are more limited."[30]

The track record of FHCs in complying with appropriate safeguards, and the effectiveness of those safeguards, is evidenced by the fact that none of the FHCs permitted to engage in Complementary Commodities Activities, Grandfathered Commodities Activities or Merchant Banking Commodities Investments has ever suffered a material loss as a result of any discharge of environmentally sensitive physical commodities. As further evidence, according to operational risk data published by the Operational Riskdata eXchange Association ("**ORX**"), based on data submitted by 66 major U.S. and non-U.S. banking organizations, and attached as Appendix F, the aggregate losses suffered by ORX members from 2006 through 2011 arising from legal liability for the loss event category that includes environmental events were less than EUR 337 million. As described in Appendix F, the category of operation risk loss data under which liability for environmental events would be reported includes all events related to "disasters & public safety" and encompasses losses related not just to environmental events but also to accidents causing personal injury to members of the public (such as slip and fall accidents on bank premises), natural disasters and acts of terrorism. Therefore, the aggregate amount of losses arising from legal liability for environmental events reported to ORX during the six-year period was certainly less than EUR 337 million.

Nothing that occurred during the financial crisis of 2008 suggested that the significant public benefits of allowing FHCs to engage in physical commodities activities were or might in the future be outweighed by their potential risks or in any other way affected that calculus. There is no evidence that physical commodities activities played any role in causing the market contagion that destabilized the U.S. financial system in 2008, and physical commodities activities may have actually played a role in mitigating that contagion by providing diversified assets and revenues. Nor are these activities likely to result in such market contagion in the future for the reasons described in Section IV.B.6.e below. Allowing FHCs to engage in physical commodities activities should contribute to financial stability by enabling FHCs to diversify their consolidated assets and revenue streams to include a source of asset value and revenue that may not be as correlated with the asset values and revenues from their other financial activities.

Moreover, the Associations believe that it is extremely unlikely that Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, or Environmentally Sensitive Commodities Handling Activities, would result in the sort of market contagion that destabilized the U.S. financial system in 2008 for two very different reasons. First, Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are unlikely to do so because an unexpected decline in the market value of

[30] *See* 79 Fed. Reg. at 3329-3330.

commodities is unlikely to produce the sort of common shock that would result in a general lack of public confidence in the solvency of FHCs throughout the U.S. financial system the way the unexpected drop in real estate prices and the value of investments in real estate-related securitization vehicles did during the financial crisis of 2008 because of the limits on the volume of physical commodities activities discussed above. FHCs maintain limited net positions in physical commodities, and the amount of their net positions is limited by regulation. Second, Environmentally Sensitive Commodities Handling Activities are unlikely to do so because discharges or accidents involving one FHC are unlikely to be correlated with similar discharges or accidents involving other FHCs.

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Part I of this letter sets forth an executive summary of our principal comments. **Part II** discusses the historical relationship between banking, physical commodities and physical commodities activities. It shows that there has always been a close relationship between these activities and explains why the risks associated with Commodity Intermediation Activities are not fundamentally different from or greater than the risks associated with any number of other permissible banking or other financial activities, including market making in financial instruments. **Part III** discusses the physical commodities activities that the Board has previously determined to be complementary to financial activities, that Congress grandfathered in the GLB Act or that may be conducted by portfolio companies acquired as a merchant banking investment. It explains why the activities previously determined to be complementary to financial activities continue to be so despite the recent decisions by certain FHCs to sell or scale back some of their physical commodities businesses. **Part IV** explains why the benefits of continuing to permit FHCs to engage in physical commodities activities should continue to produce public benefits that outweigh their potential risks, as previously determined by the Board and Congress.

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Appendix A contains a list of selected questions asked in the Notice, together with responses or cross-references to responses in the body of this comment letter. **Appendix B** is the Joint Memorandum of Law, summarizing the current state of U.S. Federal and State law with respect to potential legal liabilities arising out of the statutory and common-law legal regime, including the doctrine of piercing the corporate veil, the safeguards that can mitigate those risks and the effectiveness of those safeguards. **Appendix C** includes a list of practices which, if implemented when appropriate, should be effective to avoid or substantially mitigate the risk of potential legal liabilities arising out of physical commodities activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. **Appendix D** includes a summary of certain international conventions that govern potential legal liabilities arising out of cross-border commodities activities. **Appendix E** contains a recommended process for evaluating, estimating and establishing safeguards against the risks of potential legal liabilities under non-U.S. law arising out of cross-border commodities activities as well as the effectiveness of those safeguards. **Appendix F** contains data about the losses arising out of any legal liability for physical

commodities activities that have been reported by 66 U.S. and non-U.S. banking organizations to ORX since 2006. **Appendix G** includes a study prepared by IHS Global, Inc. at the request of SIFMA on the role of banks in physical commodities. **Appendix H** includes a description of each of the Associations.

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I. Executive Summary

The Associations have five principal comments on the issues raised by the Notice:

1. **There has always been a close relationship between banking, physical commodities and physical commodities activities. The risks associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are not fundamentally different from or inherently greater than the risks of any number of other permissible banking and other financial activities, including market making or other client intermediation services with respect to financial instruments.** The history of banking, physical commodities and physical commodities activities shows that there has always been a close relationship among these activities. That history, combined with the legal analysis in Appendix B, also shows that the market, credit, liquidity, legal, operational and reputational risks associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, or the storage, transportation or other handling of commodities that are not environmentally sensitive, are not fundamentally different from or inherently greater than the risks associated with any number of other permissible banking or other financial activities.

2. **The Complementary Commodities Activities remain complementary to otherwise permissible financial activities.** The Associations believe that the Complementary Commodities Activities remain complementary to a variety of permissible banking and other financial activities, including entering into derivatives contracts with respect to Commodity Derivatives Activities (as defined in Section III.A below) or providing Commodity Advisory Services (as defined in Section III.A below). For example, it continues to be essential to the competitiveness of an FHC's Commodity Derivatives Activities to be able to make and take physical delivery of physical commodities and to be able to maintain inventories in physical commodities to provide the most efficient financing terms and hedging strategies. The fact that some FHCs have announced that they plan to sell or scale back some of their physical commodities businesses does not alter this reality. Moreover, the FHCs cited in the Notice are not necessarily selling their entire physical commodities businesses, but may be scaling them back for a variety of reasons, such as new regulatory and political risks, capital requirements or the reduced profitability of some of these businesses for the time being. Indeed, FHCs routinely enter or exit businesses based on a

variety of factors. For instance, many of them have recently sold or scaled back their mortgage servicing and credit card businesses — without raising any concerns about whether these businesses are no longer financial activities.

3. **The public benefits of continuing to permit FHCs and their non-bank affiliates to engage in physical commodities activities are likely to greatly outweigh the potential risks of those activities.** The Board expressly determined in a series of orders beginning in 2003 (the "**Complementary Powers Orders**")[31] that the public benefits of the Complementary Commodities Activities outweighed their potential risks, when conducted in compliance with certain safeguards. It initially did so by direct Board action,[32] but starting in 2006 decided that the determinations were sufficiently routine that they could be made by delegated authority to the Director of the Division of Banking Supervision and Regulation,[33] unless a particular application raised novel issues that required direct Board action.[34]

   Congress similarly determined in 1999 that the public benefits of permitting Merchant Banking Commodities Investments and the Grandfathered Commodities Activities outweighed the potential risks of those activities when it authorized both types of activities, subject to certain statutory conditions and the Board's general authority to place limits on otherwise permissible activities to prevent them from being conducted in a manner that amounts to an unsafe or unsound practice,[35] but without any general reevaluation of the public benefits and potential risks of these activities by the Board. In the case of the Grandfathered Commodities Activities, Congress provided that the grandfathered commodities activities should be "construed broadly," that they "*shall* include owning and operating properties and facilities required to extract, process, store and transport commodities,"[36] and that the purpose of the grandfathering provision was to allow qualified FHCs to continue engaging in physical commodities activities as long as certain conditions were satisfied.[37]

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[31] *See infra* notes 81 and 82.

[32] *See infra* note 81.

[33] *See infra* note 82.

[34] *See, e.g.*, 2008 Fortis Order, *infra* note 81; 2008 RBS Order, *infra* note 81.

[35] *See* 12 U.S.C. § 1818(b); Federal Reserve Bank Holding Company Supervision Manual, § 2110 (Jan. 2013).

[36] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995) (emphasis added).

[37] Amendment No. 9 by Senator Gramm (Mar. 4, 1999), *available at* http://banking.senate.gov/docs/reports/fsmod99/gramm9.htm.

4. Public Benefits

- **The Board expressly determined in the Complementary Powers Orders as recently as 2011[38] that the Complementary Commodities Activities could reasonably be expected to produce the following public benefits:**

  - **Greater Convenience.** Greater convenience to customers by enhancing the ability of FHCs to provide a full range of commodity-related services;

  - **Increased Competition.** Increased competition by enabling FHCs to improve their understanding of the physical commodities and commodity derivatives markets and their ability to serve as an effective competitor in the relevant markets; and

  - **Gains in Efficiency.** Gains in efficiency by allowing FHCs to compete in physically settled over-the-counter ("**OTC**") derivative markets more economically and to hedge risks more efficiently.

- **The determinations by the Board and Congress[39] were correct when made and are still correct today, for the reasons set forth in Section IV.A.4.**

- **Continuing to permit FHCs to engage in physical commodities activities regardless of the source of legal authority for those activities should continue to produce a variety of additional public benefits, including the following:**

  - **Increased Liquidity in the Commodities Markets.** Permitting FHCs and their non-bank affiliates to make markets in physical commodities has increased and should continue to increase the liquidity of the commodities markets, reducing the spread in bid and ask prices and increasing the volume of commodities that can be bought and sold without moving market prices.

  - **Increased Price Convergence Between the Cash and Derivatives Markets.** Allowing FHCs to engage in physical commodities activities in both the cash and derivatives markets has helped foster and should continue to foster convergence of prices in the cash and derivatives markets, resulting in more efficient commodities markets, with lower price volatility and increased certainty.

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[38] *See* 2011 Letter to Andrew Baer, *infra* note 82; 2003 Citi Order, *infra* note 81.

[39] *See supra* notes 31-37 and accompanying text.

- **More Publicly Transparent Commodities Markets.** Because FHCs and their non-bank affiliates are subject to more and better reporting and disclosure requirements than the privately held commodity trading and investment firms that would dominate the sector if FHCs were forced to exit the physical commodities markets, FHC participation in these markets provides the public and U.S. regulators, including the Financial Stability Oversight Council, with a better window into the U.S. physical commodities markets than they otherwise would have and fosters more publicly transparent commodities markets.

- **More Economical Financing of Inventories by End Users.** FHCs can play an important role in helping businesses to reduce their operating costs, efficiently manage their cash flow and reduce their working capital by providing more economical financing of inventories.

- **Reliable Supplies, Steady Prices and Specified Inputs Through Customized Hedging.** Many consumers and producers require customized OTC contracts with specialized terms in order to meet their risk management needs and to secure supply or price. Without these customized contracts, producers and consumers would face higher basis risk — the risk that the hedge does not perfectly offset the physical position being hedged. An FHC's ability to hold physical commodities supports its ability to offer its clients customized hedges to meet their risk management needs, and to offset the risk the FHC assumes through a mixture of financial contracts and physical holdings.

- **Help Small and Mid-Size Businesses Expand Their Scale and Geographic Reach.** FHCs can use their scale and global reach to achieve better terms for end users than the clients could obtain on their own. Hedging agreements with FHCs have allowed these end users to make significant investments in development, helping to expand the diversity of the U.S. energy supply and create jobs for U.S. workers. In addition, an FHC can be a lower cost provider of certain services to end users because it has existing relationships with overseas producers and because it can more cheaply hedge the residual risk.

- **Merchant Banking Financing to Small and Mid-Size Companies, Including Start-Ups.** As recognized by Congress in passing the GLB Act, merchant banking investments can play an important role as a source of finance for small and mid-size companies, including start-ups. Merchant banking investments have financed wind farms, solar panels and other renewable forms of energy.

- **Contribute to the Development of New Technologies and Renewable or "Green" Energy Infrastructure in North America.** The North American energy industry is undergoing a fundamental transformation.

The overwhelming direction of the shift has been toward a market-based infrastructure, emphasizing increased reliance on new technologies and renewable energy. FHCs have played an important role in helping to facilitate this transformation, which has led to significant benefits to the global economy and particularly North American corporations. In particular, merchant banking investments by FHCs in wind farms, solar energy and other renewable energy projects have helped to provide capital and other funding to these projects. Without access to physical markets, or the ability to make merchant banking investments in these projects, FHCs could not have contributed to this growth in renewable energy to the same extent.

- **Increased Resiliency of FHCs by Providing Greater Diversification of Assets and Revenue Streams.** Allowing FHCs to engage in physical commodities activities increases their resiliency by diversifying their consolidated assets and revenue streams to include a source of asset values and revenue that may not be as correlated with the asset values and revenues from their other financial activities.

5. Potential Risks

- **The Board expressly determined in the Complementary Powers Orders as recently as 2011[40] that the Complementary Commodities Activities would not pose excessive risks to the FHCs engaged in such activities, their IDI subsidiaries or the U.S. financial system, if conducted in compliance with certain safeguards.[41]**

- **The determinations by the Board and Congress[42] were correct when made and are still correct today.**

  - **Commodity Intermediation Activities.** The risks associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are not fundamentally different from or inherently greater than the risks associated with any number of other permissible banking or other financial activities, including market making and other client intermediation services with respect to financial instruments.

  - **Environmentally Sensitive Commodities Handling Activities.** Although the tail risks associated with Environmentally Sensitive Commodities Handling Activities can be greater than the market value of

[40] *See infra* notes 81 and 82.

[41] *See infra* Section III.A.1.d.

[42] *See supra* notes 31-37 and accompanying text.

the commodities or facilities involved, FHCs can avoid or substantially mitigate those tail risks to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards, by complying with certain appropriate safeguards, including those described in Appendix C, when appropriate to do so.

- **No Material Risk of Market Contagion.** Nothing that occurred during the financial crisis of 2008 suggested that physical commodities activities played any role in causing the market contagion that destabilized the U.S. financial system in 2008, and physical commodities activities may have actually played a role in mitigating that contagion by providing diversified assets and revenues. It is extremely unlikely that Commodity Intermediation Activities, including Complementary Commodities Activities, or Environmentally Sensitive Commodities Handling Activities would result in the sort of market contagion that destabilized the U.S. financial system during the financial crisis of 2008.

- **No Conflicts of Interest or Other Potential Adverse Effects Not Addressed by Existing Law.** Allowing FHCs to engage in physical commodities activities has not resulted and should not result in any undue concentration of resources, unfair competition, conflicts of interest or unsound banking practices that are not adequately addressed by existing law.

II. Historical Relationship Between Banking, Physical Commodities and Physical Commodities Activities

This section illustrates the historical relationship between banking, physical commodities and physical commodities activities by discussing the history of money, commodities merchant activities and banking in America and Western Europe.[43] One of the purposes of this section is to show that there has always been a close relationship between banking, physical commodities and physical commodities activities. Banks and other depository institutions whose deposits have been insured by the Federal Deposit Insurance Corporate ("**FDIC**") and their non-bank affiliates have always been permitted to buy and sell gold, silver and other precious metal commodities[44] and to acquire assets of, or ownership interests in, companies engaged in physical commodities

[43] A selected bibliography of sources for the discussion in this section is attached as Appendix I.

[44] *See* 12 U.S.C. § 24(Seventh) (incidental powers clause). *See also* 79 Fed. Reg. at 3329 note 1 ("In addition, national banks owned by BHCs may engage in certain limited types of physical commodity activities under authority granted under the National Bank Act. State-chartered banks also may be authorized to engage in the same activities under state statutes."); Statement of Michael S. Gibson, *supra* note 3, at 1 (banking and closely related to banking activities include buying, selling and storing "certain precious metals (for example, gold, silver, platinum, and palladium) and copper").

activities in satisfaction of a debt previously contracted.[45] In addition, they or their non-bank affiliates have long been able to trade financial contracts based on physical commodities.[46] The non-bank affiliates of insured banks were permitted to trade physical commodities before 1956,[47] those of one-bank BHCs until 1970,[48] those of unitary thrift holding companies until 1999,[49] and those of grandfathered unitary thrift holding companies to this day, subject to certain conditions imposed in 2010 by the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "**Dodd-Frank Act**"), such as a requirement to hold banking and non-banking companies through separate ownership chains.[50] In addition, BHCs and their non-bank affiliates have always been permitted to engage in physical commodities activities to a limited extent.[51] Finally,

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[45] *See* 12 U.S.C. § 24(Seventh) (incidental powers clause); OCC Interpretive Letter No. 643, reprinted in Fed. Banking L. Rep. (CCH) ¶ 83, 551 (July 1, 1992); OCC Interpretive Letter No. 511, reprinted in [1990-1991 Transfer Binder] Fed. Banking L. Rep. (CCH) ¶ 83,213 (June 20, 1990); OCC Interpretive Letter No. 1007 (September 7, 2004); Comptroller of the Currency, Administrator of National Banks, *Activities Permissible for a National Bank, Cumulative*, at 86 (2011 Annual Edition, Apr. 2012); 12 U.S.C. § 1831a (generally limiting activities and equity investments of insured state banks to those that are permissible for national banks); *see also* 12 U.S.C. § 1843(c)(2); 12 C.F.R. § 225.22(d)(1).

[46] *See, e.g.*, 12 C.F.R. § 225.28(b)(8).

[47] The BHC Act imposed restrictions on the physical commodities activities of BHCs in 1956, other than one-bank BHCs. Bank Holding Company Act of 1956, Pub. L. No. 84-511, 70 Stat. 133 (codified as amended at 12 U.S.C. §§ 1841-1850).

[48] The restrictions of the BHC Act on physical commodities activities were extended to one-bank BHCs in 1970 by the Bank Holding Company Act Amendments of 1970, Pub. L. No. 91-607, 84 Stat. 1760 (codified as amended at 12 U.S.C. §§ 1841-1850).

[49] The GLB Act extended the restrictions of the Savings and Loan Holding Company Act on physical commodities activities to unitary thrift holding companies other than grandfathered unitary thrift holding companies. Gramm-Leach-Bliley Act of 1999, Pub. L. No. 106-102, 113 Stat. 1338 (codified as amended in scattered sections of 12 U.S.C. and 15 U.S.C.).

[50] Pub. L. No. 111-203, § 626.

[51] For example, they are permitted to acquire up to 100% of the physical commodities assets of, or ownership interests in, companies engaged in physical commodities activities in satisfaction of debt previously contracted in good faith under Section 4(c)(2) of the BHC Act, which allows such commodities or ownership interests to be held for 2 years (with possible extensions up to a total of 10 years). *See* 12 U.S.C. § 1843(c)(2); 12 C.F.R. § 225.22(d)(1). Sections 4(c)(6) and 4(c)(7) of the BHC Act permit BHCs to own or control up to 4.9% of the voting securities and up to 33.3% of the total equity of a company engaged in physical commodities activities. Section 4(c)(5) of the BHC Act and Regulation Y permit small business investment corporation subsidiaries of BHCs to invest in up to 50% of a portfolio company engaged in physical commodities activities provided the portfolio company is a small business — subject to an aggregate investment limit of 5% of the BHC's capital and surplus. Regulation K permits BHC subsidiaries that are Edge Act or Agreement corporations or that comply with Section 4(c)(13) of the BHC Act to invest in up to 19.9% of the voting securities and up to 40% of the total equity of a portfolio company engaged in physical commodities activities, except for companies "engaged in the general business of selling goods, wares, merchandise or commodities *in the United States*." Federal Reserve Act, § 25A(6)(c) (codified at 12 U.S.C. § 615(c)) (emphasis added). Section 225.85(a)(3) of Regulation Y permits temporary investments in up to 100% of the equity of a company engaged in physical commodities activities as long as the company is predominantly engaged in financial activities. This regulation allows such investments to be held for 2 years until they must be conformed to the requirement that the company be exclusively engaged in activities that are financial in nature or incidental to a financial activity. Securities affiliates and financial subsidiaries of

merchant/investment banks were permitted to engage in physical commodities trading both before and after passage of the Glass-Steagall Act of 1933 and the GLB Act of 1999. Thus, the authority granted by the GLB Act to allow FHCs to engage in Complementary Commodities Activities and to make Merchant Banking Commodities Investments, and to grandfather the physical commodities activities of the merchant/investment banks that became FHCs after 1999, was a continuation of this history or at most an incremental adjustment, and was not a radical break with American history or tradition, or any foundational American principles, as some have argued.[52] Congress understood this history when the GLB Act was enacted by large bipartisan majorities in Congress and signed by the President in 1999.[53]

Another purpose of this section is to establish a basis for showing that the market, credit, liquidity, legal, operational and reputational risks associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are not fundamentally different from or inherently greater than the risks associated with any number of banking and other permissible financial activities, including market making or providing other client intermediation services with respect to financial instruments. Both physical commodities and modern forms of money and other financial instruments are fungible and divisible, their market values are transparent, their price volatility is relatively easy to hedge on established markets, and their markets are generally more liquid than the markets for manufactured products, real estate and other heterogeneous products.

The historical relationship between banking, physical commodities and physical commodities activities can be illustrated by the history of money and banking in America and Western Europe. The core function of a modern bank is to engage in maturity transformation — that is, to create money by taking demand deposits or issuing bank notes and using the funds raised from those activities to make long-term loans or invest in other illiquid assets.[54] Physical

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national banks are permitted to underwrite and deal in ownership interests in companies engaged in physical commodities activities.

[52] *See, e.g.*, Saule T. Omarova, *The Merchants of Wall Street: Banking, Commerce, and Commodities*, 2013 MINN. L. REV. 265, 268-269; *Examining Financial Holding Companies: Should Banks Control Power Plants, Warehouses, and Oil Refineries?*, Hearing Before the Subcommittee on Financial Institutions and Consumer Protection of the Senate Committee on Banking, Housing, and Urban Affairs, 130th Cong., 1st Sess. at 1-3, 17-20, 26-29 (July 23, 2013) ("**Commodities Handling Facilities Hearing**") (statements of Senators Brown, Merkley and Warren); Prepared Statement of Saule T. Omarova, Associate Professor of Law, University of North Carolina at Chapel Hill, Commodities Handling Facilities Hearing 35-36; *Physical Commodities*, Hearing Before the Subcommittee on Financial Institutions and Consumer Protection of the Senate Committee on Banking, Housing, and Urban Affairs, 130th Cong., 1st Sess. at 2-4 (Jan. 15, 2014) (statement of Senator Brown).

[53] The GLB Act, including the provisions that authorized the Complementary Commodities Activities, the Grandfathered Commodities Activities and Merchant Banking Commodities Investments, was approved by a vote of 90-8 in the Senate and a vote of 362-57 in the House and promptly signed by President Clinton, who strongly supported and pushed for enactment of the GLB Act. *See* 145 Cong. Rec. at S. 13917 (Nov. 4, 1999); 145 Cong. Rec. at H. 11551 (Nov. 4, 1999); President William J. Clinton, *Remarks on Signing Legislation to Reform the Financial System*, 35 Weekly Compilation of Presidential Documents 2361 (Nov. 12, 1999).

[54] For example, the National Bank Act defines the business of banking as including the taking of deposits, the buying and selling of precious metals, the making of loans and the issuance of bank notes. 12 U.S.C. § 24(7). *See also* Samuel G. Hanson, Andrei Shleifer, Jeremy C. Stein & Robert W. Vishny, *Banks as Patient Fixed Income*

commodities and various warehouse receipts, bills of exchange and other claims for physical commodities, in addition to gold and silver, functioned as money in Europe for centuries. While gold and silver, or bank notes convertible into one of these precious metals, were the principal forms of money in America for much of its history, a wide variety of other physical commodities, warehouse receipts or other claims for such commodities functioned as money at one time or another. For example, warehouse receipts or deposit claims for tobacco issued by commodities merchants served as the principal form of money in Virginia during the eighteenth century and well into the nineteenth century. Various colonies, including Massachusetts and South Carolina, enacted statutes making various forms of grain, furs and other physical commodities legal tender because gold and silver were in short supply. Even today, warehouse receipts for grain function as money-like instruments in the American wholesale banking markets.[55]

Even though physical commodities other than precious metals are generally not used as money today, their characteristics are strikingly similar to those of modern forms of money, such as paper currency and demand deposits at central banks or commercial banks. Money is generally defined as a unit of account, medium of exchange and a store of value.[56] Among the characteristics that make paper currency and demand deposits an efficient unit of account and medium of exchange are their divisibility and fungibility — that is, their ability to be divided

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*Investor*s, 1-4, Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C. (First draft: Feb. 2014) (describing "business of banking" as consisting of the synergy between creating "safe, 'money-like' claims" against the bank and investing in loans and other illiquid assets); Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 JOURNAL OF POLITICAL ECONOMY 401, 403, 405 (1983) (banks "transform" illiquid assets such as loans by offering liabilities such as demand deposits "with a different, smoother pattern of returns over time than the illiquid assets offer"); Gary B. Gorton, MISUNDERSTANDING FINANCIAL CRISES: WHY WE DON'T SEE THEM COMING, at 5-6 (2012) (major outputs of banks are deposits and other money-like, information-insensitive liabilities, and their major inputs are loans and other illiquid assets); Bipartisan Policy Center, *Too Big to Fail: The Path to a Solution*, at 36-42 (May 2013) (describing maturity transformation as socially useful). Insured depository institutions are permitted to engage in maturity transformation even though maturity transformation — more than anything else — makes them vulnerable to runs and the sort of contagion that can destabilize the financial system. *See, e.g.*, Diamond & Dybvig, at 403 (banks are vulnerable to runs because their assets are illiquid and their liabilities are liquid); Ben S. Bernanke, Chairman, Board of Governors of the Federal Reserve System, *The Federal Reserve and the Financial Crisis: Lectures by Ben S. Bernanke*, at 5 (2013) (using the James Stewart movie, "It's a Wonderful Life," to illustrate why the banking system is vulnerable to runs and financial panics); Bipartisan Policy Center, at 36-42 (describing why maturity transformation makes the financial system vulnerable to contagion).

[55] Larry Allen, THE ENCYCLOPEDIA OF MONEY 81-82, 428-429 (ABC-CLIO, 2d ed. 2009); William F. Spalding, THE FUNCTIONS OF MONEY: A HANDBOOK DEALING WITH THE SUBJECT IN ITS PRACTICAL, THEORETICAL, AND HISTORICAL ASPECTS 7-8, 16-21 (Sir Isaac Pitman & Sons, 1921); Adam Smith, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS, Book I, Chapter IV (1776); THE NEW PALGRAVE DICTIONARY OF MONEY & FINANCE, Vol. 2, at 771 (Palgrave Macmillan, 1994); Murray N. Rothbard, A HISTORY OF MONEY AND BANKING IN THE UNITED STATES: THE COLONIAL ERA TO WORLD WAR II 48 (Ludwig von Mises Inst., 2005); John H. Hickcox, A HISTORY OF THE BILLS OF CREDIT 3 (1866); Glyn Davis, A HISTORY OF MONEY 27-28 (2002); Dan Morgan, MERCHANTS OF GRAIN: THE POWER AND PROFITS OF THE FIVE GIANT COMPANIES AT THE CENTER OF THE WORLD'S FOOD SUPPLY 177 (1979).

[56] Palgrave, *supra* note 55, at 771; Frederic S. Mishkin, THE ECONOMICS OF MONEY, BANKING, AND FINANCIAL MARKETS 49-51 (Addison Wesley, 5th ed. 1998); N. Gregory Mankiw, Macroeconomics 81-82 (Worth Publishers, 8th ed. 2013).

into very small units that are interchangeable with each other.[57] Among the characteristics that make them a good store of value are their transparency, stability and liquidity — the ability to know their market value at all times, the stability of their market value or the ability to readily hedge it, and the ability to buy or sell large amounts of them without affecting their market value. [58] Physical commodities such as grain, industrial metals, oil, natural gas and electricity typically share all or substantially all of these characteristics. Such commodities are divisible into very small units that are fungible with each other, at least within certain defined categories. In addition, such physical commodities are often transparent, stable and liquid — that is, their market prices are determined on public markets, their market prices are stable or can be readily hedged, and a person can buy and sell large amounts of them without any material impact on their market prices.[59]

Modern banking began in Italy in the 13th century as an incident to the international commodities trading businesses of the Italian grain and wool merchants headquartered in Lombardy.[60] The first banks were not separate, standalone companies, but rather unincorporated divisions of these commodities merchants. They were originally custody banks, or banks of deposit, but gradually developed into something more akin to the fractional reserve banks of modern times. These banking divisions of the Italian commodities merchants developed the first derivative contracts in order to reduce the risks associated with the international physical commodities business. One of the first derivatives was the "bill of exchange."[61] Bills of exchange were a type of forward contract entered into with the Italian commodities merchants, as intermediaries, that reduced the risks and costs of settling long-distance and often international commodities transactions. It gave merchants in different countries who did not know each other the confidence to trade with each other, based on their confidence in the Italian intermediary to honor its obligations to make payment under the bills of exchange. The Italian commodities merchants dominated the market as intermediaries on most bills of exchange during this period.[62]

The bills of exchange issued by the Italian commodities merchants eventually became so widely accepted that they began to function as an early form of paper money,[63] although various

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[57] *See, e.g.*, Mishkin, *supra* note 56, at 50.

[58] *See, e.g.*, *id*. at 51-52.

[59] *See, e.g.*, James R. Kearl, ECONOMICS AND PUBLIC POLICY: AN ANALYTICAL APPROACH 112-113 (Pearson, 6th ed. 2011) (wheat); Armen Alchian & William R. Allen, EXCHANGE AND PRODUCTION: COMPETITION, COORDINATION AND CONTROL 265 (Wadsworth Publishing Company, 2d ed. 1977) (wheat, oats, corn, soybeans, cotton, etc.).

[60] *See, e.g.*, Edwin S. Hunt, THE MEDIEVAL SUPER-COMPANIES: STUDY OF THE PERUZZI COMPANY OF FLORENCE 63-64 (Cambridge University Press, 1997); John F. Padgett & Walter W. Powell, THE EMERGENCE OF ORGANIZATIONS AND MARKETS 136-137 (Princeton University Press, 2012); Raymond de Roover, THE RISE AND DECLINE OF THE MEDICI BANK: 1397-1494, at 1-3 (Beard Books, 1999); Valentine V. Craig, *Merchant Banking: Past and Present*, 14 FDIC BANKING REVIEW 29, 29-30 (2001); Erik Banks, THE RISE AND FALL OF THE MERCHANT BANKS 1-2 (Reuters & Kogan Page, 1999).

[61] *See, e.g.*, Banks, supra note 60, at 3.

[62] *Id*.; Allen supra note 55, at 45-46.

[63] Allen, *supra* note 55, at 45-46.

types of physical commodities, especially gold and silver, continued to function as the principal sources of the general money supply. The Italian commodities merchants also began to lend commodities, most notably gold and silver to European sovereigns, in return for trading privileges in grain, wool and other commodities. Some of these Italian commodities merchants established offices in various cities throughout Europe, including London. Indeed, the place where they were required to live and transact business since the late 13th century was called Lombard Street because of their origins in Lombardy.[64]

Local banks developed in England as an incident to the commodities trading businesses of the English goldsmiths. Toward the middle of the 17th century, wealthy landowners started depositing their gold and silver with the English goldsmiths for safekeeping in return for deposit receipts and sometimes interest. Some of the deposit receipts issued by the goldsmiths reflected a traditional custody relationship. Other receipts authorized the goldsmiths to use the deposited commodities to make loans and other investments, essentially establishing a debtor/creditor relationship. This latter category of notes was assignable and eventually began to function as a form of paper money, known as "goldsmith notes." The goldsmiths learned over time that they could safely issue goldsmith notes promising to deliver more gold or silver than they had on deposit because only a fraction of the holders of such notes demanded that the notes be converted into gold or silver at any point in time.[65]

The Bank of England was established in 1694 as a joint-stock company, or chartered banking corporation. It was authorized to issue bank notes that were convertible into gold or silver commodities and to discount bills of exchange, and it was prohibited from trading in goods, wares or merchandise, except to the extent necessary to liquidate any such property delivered as collateral for a loan upon default. It was not a mere custody bank or bank of deposit. Instead, it was a fractional reserve bank that was only required to hold a fraction of the gold or silver necessary to satisfy its obligations on its bank notes.[66]

The development of the first banks in the United States followed a similar pattern. The earliest banks were formed by local merchants who pooled their resources to create mercantile banking corporations chartered by state legislatures. These early mercantile banks issued paper money convertible into gold or silver and made loans to local merchants to finance their inventory. The loans typically matured within 60-90 days — the amount of time it usually took for merchants to turn over their inventory. Later, agricultural banking corporations were chartered that made loans of one year or more, because farmers needed loans that covered the entire growing season. Over time, American banks evolved into institutions that engaged in full-

[64] William F. Spalding, THE LONDON MONEY MARKET: A PRACTICAL GUIDE TO WHAT IT IS, WHERE IT IS, AND THE OPERATIONS CONDUCTED IN IT 12-13 (Sir Isaac Pitman & Sons, Ltd., 1922). Even today, Lombard Street is considered the heart of the U.K. banking system as symbolized by Bagehot's classic book on the money market and central banking. Walter Bagehot, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET (1873).

[65] Spalding, *supra* note 64, at 16-30; Banks, *supra* note 60, at 4.

[66] Bank of England Act 1694, XXVI-XXVII.

fledged maturity transformation — *i.e.*, the taking of demand deposits and investing the proceeds in long-term loans or other illiquid assets.[67]

Large grain, metals and other commodities merchants did not develop in the United States until the second half of the 19th century, and large oil, gas and electricity companies did not develop until well into the twentieth century. These commodities merchants were permitted to have one or more bank affiliates, including insured bank affiliates, until 1956, a single insured bank affiliate until 1970, a single insured thrift affiliate until 1999 and a single grandfathered thrift affiliate to this day subject to certain conditions imposed in 2010, without any legal restrictions on their physical commodities activities.[68]

The authority of U.S. incorporated banks to engage in physical commodities activities varied from state to state, and from charter to charter, but BHCs and their non-bank affiliates were not subject to any limitations on their physical commodities activities until 1956, unitary BHCs until 1970, unitary thrift holding companies until 1999, and grandfathered unitary thrift holding companies to this day.[69]

U.S. unincorporated banks (*e.g.*, partnerships) — or private banks — had the legal authority to engage in, and did engage in, merchant banking activities, including physical commodities activities, throughout the nineteenth century and well into the twentieth century. But because the physical commodities trading markets were centered in London or other financial centers in Europe during that period, the U.S. merchant banks generally engaged in physical commodities trading through their London or other European operations,[70] although nothing prohibited them from doing so in the United States.

After the Glass-Steagall Act of 1933 prohibited insured banks that were members of the Federal Reserve System and eventually all insured depository institutions from underwriting or dealing in corporate securities or having investment banking affiliates principally engaged in those activities, the newly insured member banks spun off their merchant/investment banking arms into separately incorporated, unaffiliated merchant/investment banks.

By the early 1980s, the U.S. capital markets had grown exponentially and displaced insured banks as the primary suppliers of credit and other financing to corporate America. This development fueled demand for the underwriting and dealing services of the merchant/investment banks, but reduced demand for insured bank lending. The insured banks faced the prospect of a shrinking pool of less creditworthy borrowers. At the same time, they faced intense competition on the liabilities side of their balance sheets. Money market mutual funds and other non-bank financial institutions were able to provide money market instruments

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[67] Bray Hammond, BANKS AND POLITICS IN AMERICA: FROM THE REVOLUTION TO THE CIVIL WAR 65-74 (Princeton University Press, 1957).

[68] *See supra* notes 47-50.

[69] *Id*.

[70] *See, e.g.*, Vincent P. Carosso, THE MORGANS: PRIVATE INTERNATIONAL BANKERS, 1854-1913, at 6-12, 51-53, 76-77, 111-115, 159-162 (Harvard University Press, 1987).

that were functionally equivalent to deposits issued by commercial banks, except that they were able to pay interest, which the insured banks were forbidden or limited in their ability to do.

At about the same time, the cash and derivatives markets for physical commodities started to change, especially the markets related to oil, gas, electricity and other energy commodities. Clients started demanding a wide range of customized derivative contracts that were not identical to those authorized for trading on commodities exchanges. They also demanded more efficient ways to finance the production, processing, transportation, storage, sales and purchases of physical commodities, and to manage the risks of those activities, including price volatility, supply chain uncertainties and other risks associated with physical commodities. As a result, most of the U.S. merchant/investment banks expanded their physical commodities activities, especially with respect to energy commodities, starting in the early 1980s.

The insured banks responded to these market developments by establishing securities affiliates that engaged in underwriting and dealing in corporate securities to a limited extent, but without amounting to their principal activity, as then permitted by the Glass-Steagall Act. The bank regulators phased out the limits on interest rates payable on time deposits, and Congress eventually repealed the prohibition on paying interest on demand deposits. Congress decided to respond to these market developments by enacting the GLB Act, which created what was referred to widely at the time as a "two-way street" for insured banks and merchant/investment banks. Insured banks were permitted to acquire separately incorporated merchant/investment bank affiliates engaged principally in securities underwriting and dealing (one way on the street). And merchant/investment banks were permitted to acquire insured bank affiliates (the other way on the street). This two-way street was, in both cases, conditioned on the parent holding companies qualifying as FHCs and the insured banks complying with Sections 23A and 23B of the Federal Reserve Act with respect to any extensions of credit to, purchase of assets from, or other "covered transactions" with their merchant/investment bank affiliates.

The GLB Act also authorized the Federal Reserve to permit separately incorporated non-banking affiliates of insured banks to engage in physical commodities activities as a complement to their banking and other financial activities, provided that their parent holding companies qualified as FHCs and Sections 23A and 23B were complied with. The GLB Act also permitted FHCs and their non-bank affiliates to make merchant banking investments in companies engaged in any non-financial activity, including physical commodities activities. Finally, the GLB Act grandfathered the physical commodities activities of any merchant/investment bank that became affiliated with an insured bank after the passage of the GLB Act. Far from being a radical break with American history or tradition or any foundational American principles as some have argued,[71] these provisions of the GLB Act, which was duly enacted by large bipartisan majorities in Congress and strongly supported and signed by President Clinton,[72] are consistent with the history of money, commodities activities and banking in America or at most reflect an incremental adjustment to that history.

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[71] *See supra* note 52.

[72] See *supra* note 53.

In fact, if the Federal Reserve tried to turn back the clock by restricting the commodities intermediation powers of FHCs in any significant way, it would not restore the world as it stood on the eve of the GLB Act. On the eve of the GLB Act, the needs of end users for commodities intermediation services were largely being met by the merchant/investment banks and to a more limited extent the BHCs. The GLB Act was enacted to modernize the legal infrastructure so that it took account of the fundamental changes to the money, credit and capital markets between 1933 and the 1980s, and to do so in a way that provided a two-way street of opportunities to the BHCs and the merchant/investment banks. The Board's Complementary Powers Orders under the GLB Act resulted in the BHC/FHCs becoming a source of additional competition in the market for commodity intermediation services. During the financial crisis of 2008, virtually all of the merchant/investment banks became FHCs or were acquired by FHCs for reasons that had nothing to do with their physical commodities businesses. Indeed, their physical commodities activities were a relative source of financial strength for them during the financial crisis. If the Federal Reserve were to attempt to turn back the clock, the result would be to deprive end users of the commodity intermediation services that only the FHCs or merchant/investment banks are well-suited and have the incentives to provide to the same degree.[73]

III. Authority to Engage in Physical Commodities Activities

The Notice indicated that FHCs are permitted to engage in physical commodities activities under three alternative sources of authority, depending on certain conditions: the complementary powers authority of Section 4(k)(1)(B) of the BHC Act (the "**Complementary Powers Authority**"), the grandfathering provisions of Section 4(o) of the BHC Act (the "**Commodities Grandfathering Authority**") or the merchant banking authority of Section 4(k)(4)(H) of the BHC Act (the "**Merchant Banking Authority**"). The Notice stated that the Board's review of physical commodities activities would focus on activities conducted under each one of these three sources of authority.[74]

A. Complementary Commodities Activities

The Notice defines a complementary activity as "an activity that appears to be commercial rather than financial in nature, but that is meaningfully connected to a financial activity such that it complements the financial activity."[75] The GLB Act authorized FHCs to engage in complementary activities so that they "would not be disadvantaged by market developments if commercial activities evolve into financial activities or nonbank competitors find innovative ways to combine financial and nonfinancial activities."[76]

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[73] *See, e.g.*, Comment letters on the Notice from United Parcel Service Inc. (Apr. 4, 2014) (emphasizing that FHCs are uniquely well-suited to provide market liquidity and risk management services upon which end users depend); Alon USA Energy, Inc. (Mar. 14, 2014) (same).

[74] FHCs and their IDI and non-IDI subsidiaries are also permitted to engage in certain physical commodities activities under a variety of other authorities. *See supra* note 51.

[75] 79 Fed. Reg. at 3330. *See also* 2003 Citi Order, *infra* note 81.

[76] 79 Fed. Reg. at 3330.

1. Complementary Powers Orders

The Board has previously determined in the Complementary Powers Orders[77] that three types of physical commodities activities are complementary to the financial activities of engaging as principal in forward contracts, options, futures, options on futures, swaps, and similar contracts, whether traded on exchanges or not, based on a rate, price, financial asset, nonfinancial asset, or group of assets ("**Commodity Derivatives Activities**")[78] or providing information, statistical forecasting, and advice with respect to any transaction in foreign exchange, options, futures, options on futures, and similar instruments ("**Derivatives Advisory Services**")[79] — namely, Commodity Trading Activities, Energy Management Services and Energy Tolling ("**Complementary Commodities Activities**").[80] The Board initially made these determinations by direct Board action,[81] but starting in 2006 decided that the determinations were sufficiently routine that they could be made by delegated authority to the Director of the Division of Banking Supervision and Regulation,[82] unless a particular application raised novel issues that required direct Board action.

Under Regulation Y, a BHC is permitted to conduct Commodity Derivatives Activities subject to certain restrictions that are designed to limit the BHC's activity to trading and investing in financial instruments rather than dealing directly in physical commodities, including severe restrictions on the ability to take or make delivery of physical commodities.[83]

a. Commodity Trading Activities

In a series of orders, the Board defined "Commodity Trading Activities" as (i) the purchase or sale of physical commodities in the spot market such as oil, natural gas, agricultural

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[77] *See infra* notes 81 and 82.

[78] 12 C.F.R. § 225.28(b)(8)(ii).

[79] 12 C.F.R. § 225.28(b)(4).

[80] *See, e.g.*, 2003 Citi Order, *infra* note 81; 2008 RBS Order, *infra* note 81; 2008 Fortis Order, *infra* note 81.

[81] *See* Citigroup Inc., 89 Fed. Res. Bull. 508 (2003) (the "**2003 Citi Order**"); UBS AG, 90 Fed. Res. Bull. 215, 216 (2004); Barclays Bank plc, 90 Fed. Res. Bull. 511, 512 (2004); Deutsche Bank AG, 92 Fed. Res. Bull. C54, C56 (2006); Société Générale, 91 Fed. Res. Bull. C113, C115 (2006); JPMorgan Chase & Co., 92 Fed. Res. Bull. C57, C58 (2006) (the "**2006 JPMC Order**"); Fortis S.A./N.V., 94 Fed. Res. Bull. C22 (2008) (the "**2008 Fortis Order**"); The Royal Bank of Scotland Group plc, 94 Fed. Res. Bull. C60 (2008) (the "**2008 RBS Order**").

[82] *See* Letter to Elizabeth T. Davy, Esq., dated Apr. 13, 2006 (Wachovia Co.); Letter to David R. Sahr, Esq., dated Sept. 29, 2006 (Fortis S.A./N.V.); Letter to Paul E. Glotzer, Esq., dated Mar. 27, 2007 (Credit Suisse Group); Letter to Gregory A. Baer, Esq., Apr. 24, 2007 (Bank of America); Letter to Paul E. Glotzer, Esq., dated Aug. 31, 2007 (BNP Paribas); Letter to John Shrewsberry, dated Apr. 10, 2008 (Wells Fargo); Letter to David R. Sahr, Esq., dated May 21, 2008 (Fortis S.A./N.V.); Letter to Robert L. Tortoriello, Esq., dated Dec. 5, 2008 (BNP Paribas); Letter to Mark Lenczowski, Esq., dated Apr. 20, 2009 (JP Morgan Chase & Co.); Letter to Andrew S. Baer, Esq., July 2, 2009 (Barclays PLC); Letter to Andrew S. Baer, Esq., Jan. 29, 2010 (Deutsche Bank); Letter to Kathryn V. McCulloch, Esq., dated June 30, 2010 (JPMorgan Chase & Co.); Letter to Robert L. Tortoriello, Esq., dated Sept. 21, 2010 (BNP Paribas); Letter to Andrew S. Baer, Esq., dated Feb. 17, 2011 (Bank of Nova Scotia).

[83] 12 C.F.R. § 225.28(b)(8)(ii).

products and other nonfinancial commodities, (ii) taking inventory positions in physical commodities, (iii) taking or making delivery of physical commodities to settle Commodity Derivatives transactions, including in connection with commodity-related financing transactions, such as volumetric production payment transactions, (iv) entering into long-term power supply contracts with large commercial and industrial end users, and (v) entering into contracts with third parties to process, refine, or otherwise alter commodities.[84] The Board concluded that "Commodity Trading Activities involving a particular commodity complement the financial activity of engaging regularly as principal in BHC-permissible Commodity Derivatives based on that commodity,"[85] for two principal reasons:

- **Meaningful Connection with Commodity Derivatives Activities.** "First, Commodity Trading Activities flow from the existing financial activities of FHCs. In particular, Commodity Trading Activities would provide FHCs with an alternative method of fulfilling their obligations under otherwise BHC-permissible Commodity Derivatives. For example, if warranted by market conditions, a FHC would be able to use Commodity Trading Activity authority to take a Commodity Derivative to physical settlement rather than terminating, assigning, offsetting, or otherwise cash-settling the contract."[86]

- **Eliminate Competitive Disadvantage with Non-BHC Participants in the Commodity Derivatives Markets.** The Board also noted Citigroup's contention that "the existing restrictions in Regulation Y place FHCs at a significant bargaining disadvantage when operating in physically settled [OTC] derivatives markets. According to Citigroup, counterparties to FHCs in these markets are aware of the regulatory impediments that inhibit FHCs from taking derivatives contracts to physical settlement. As a consequence, FHCs that participate in these markets can be forced to terminate or offset their derivative contracts on uneconomic terms. In Citigroup's view, allowing FHCs to engage in [Physical] Commodity Trading Activities would permit FHCs to compete in physically settled OTC derivatives markets more economically."[87]

  The Board responded to these contentions by noting that "a number of non-BHC participants in the commodity derivatives markets . . . conduct Commodity Trading Activities in connection with their commodity derivatives business. These companies can, and regularly do, buy and sell commodities in the spot market and physically settle commodity derivatives contracts. Permitting FHCs to engage in Physical Commodity Trading Activities in connection with their

[84] *See, e.g.*, 2003 Citi Order, *supra* note 81; 2008 RBS Order, *supra* note 81; 2008 Fortis Order, *supra* note 81.

[85] 2003 Citi Order, *supra* note 81, at 509. To illustrate the breadth of this conclusion, the Board stated that "Commodity Trading Activities involving all types of crude oil would be complementary to engaging regularly as principal in BHC-permissible Commodity Derivatives based on Brent crude oil." *Id.*

[86] *Id*.

[87] *Id*.

commodity derivatives business would, therefore, enable FHCs to offer services that are provided by a number of other financial intermediaries."[88]

b. Energy Management Services

The Board defined "Energy Management Services" as "acting as a financial intermediary for a power plant owner to facilitate transactions relating to the acquisition of fuel and the sale of power by the power plant owner and providing advice to assist the owner in developing its risk-management plan."[89] It concluded that "Energy Management Services complement . . . Commodity Derivatives Activities and Derivatives Advisory Services,"[90] for two principal reasons:

- **Meaningful Connection with Commodity Derivatives Activities and Derivative Advisory Services**. "Energy Management Services would add to these financial activities a number of agency and administrative services that would facilitate providing Commodity Derivatives Activities and Derivatives Advisory Services on behalf of the plant owner. This combination of services would complement and enhance . . . Commodity Derivatives Activities and Derivative Advisory Services by allowing [an FHC] to offer power plant owners an integrated approach to managing the commodity-related aspects of their business. Many owners need assistance in devising energy-management strategies and a market participant that can substitute its credit and liquidity for the owner's to facilitate transactions, and they would prefer to receive those services from a single source. [An FHC] also would gain additional information about energy markets in the course of providing Energy Management Services that would improve [its] ability to manage its own commodity risks and to advise its clients on their commodity-related activities."[91]

- **Eliminate Competitive Disadvantage with Non-BHC Participants in the Commodity Derivatives Markets**. "A number of non-BHC participants in the energy trading markets . . . offer Energy Management Services to clients in connection with their commodity derivatives business. These companies can, and regularly do, provide Energy Management Services to owners. Permitting FHCs to provide these services in connection with their commodity derivatives business and commodity trading activities, therefore, would enable FHCs to offer the same integrated services that are provided by a number of their competitors."[92]

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[88] *Id*.

[89] 2008 Fortis Order, *supra* note 81, at C20.

[90] *Id*. at C22.

[91] *Id*.

[92] *Id*.

c. Energy Tolling

The Board defined "Energy Tolling" as "entering into tolling agreements with power plant owners"[93] pursuant to which the FHC, as toller, would pay "the plant owner a fixed periodic payment that compensates the owner for its fixed costs ('capacity payments') . . . in exchange for the right to all or part of the plant's power output."[94] The FHC could also provide (or pay for) "the fuel needed to produce the power that it directs the owner to produce."[95] The FHC could also pay the owner "a marginal payment for each megawatt hour produced by the plant to cover the owner's variable costs plus a profit margin."[96] The Board compared the toll to "a call option on the power produced by the plant with a strike price linked to fuel and power prices."[97] The Board concluded that "Energy Tolling complements Commodity Derivatives Activities,"[98] for two principal reasons:

- **Meaningful Connection with Commodity Derivatives Activities.** "As part of its Commodity Derivatives Activities, an FHC may take a derivatives position in a commodity, including energy. Energy Tolling complements Commodity Derivatives Activities by allowing an FHC to hedge its own, or assist its clients to hedge, positions in energy. Engaging in energy tolling would also provide an FHC with additional information on the energy markets that would help the FHC manage its own commodity risks."[99]

- **Eliminate Competitive Disadvantage with Non-BHC Participants in the Commodity Derivatives Markets**. "The Board also notes that financial institution competitors . . . that are not FHCs engage in tolling activities as part of their energy trading operations."[100]

d. Safety and Soundness Limits

The Notice observed that as part of determining whether a physical commodity activity is complementary to a financial activity, "the Board must find that the activity does not pose substantial risk to the safety and soundness of depository institutions or the financial system generally."[101] In addition, "the Board must consider whether performance of the activity by the FHC may reasonably be expected to produce benefits to the public, such as greater convenience,

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[93] 2008 RBS Order, *supra* note 81, at C60.

[94] *Id*. at C64.

[95] *Id.*

[96] *Id.*

[97] *Id*.

[98] *Id*. at C65.

[99] *Id*.

[100] *Id.*

[101] 79 Fed. Reg. at 3330.

increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflict of interests, unsound banking practices, or risk to the stability of the United States banking or financial system."[102]

In order to limit the potential safety and soundness and financial stability risks of Complementary Commodities Activities, the Board has imposed a number of conditions on such activities,[103] including the following:

- **Volume Limits.** The market value of physical commodities that an FHC is permitted to acquire as a Complementary Commodities Activity must not exceed 5% of the FHC's consolidated Tier 1 capital. The FHC also must notify the Board if the market value of commodities it holds as a result of its Commodity Trading Activities exceeds 4% of its Tier 1 capital.[104] The present value of all capacity payments to be made in connection with energy tolling agreements must be included in these calculations.[105]

- **Fungibility and Liquidity Requirements.** The range of physical commodities that may be taken or delivered are limited to those "for which derivatives contracts have been approved for trading on a U.S. futures exchange by the Commodity Trading Futures Commission ("**CFTC**") (unless specifically excluded by the Board) or which have been specifically approved by the Board."[106] The Board explained that the purpose of this condition is to prevent FHCs from "becoming involved in dealing in finished goods and other items, such as real estate, that lack the fungibility and liquidity of exchange-traded commodities."[107]

    - Consistent with that purpose, physical commodities for which derivatives contracts that have not been approved by the CFTC for trading on a U.S. futures exchange are nevertheless permissible for an FHC if the FHC can demonstrate that (i) there is a market in financially settled contracts on the commodity in addition to physically settled contracts; (ii) the commodity is fungible; and (iii) the market for the commodity is sufficiently liquid. The FHC must also demonstrate that it has trading limits in place to address concentration risk and overall exposure to the commodity.[108]

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[102] *Id.*

[103] *See infra* Section IV.B.1.

[104] *See, e.g.*, 2008 RBS Order, *supra* note 81, at C64.

[105] *Id.*

[106] 2003 Citi Order, *supra* note 81, at 510. *See also* 79 Fed. Reg. at 3330.

[107] 2003 Citi Order, *supra* note 81, at 510.

[108] 2008 RBS Order, *supra* note 81, at C62-C64.

- **Prohibition on Owning, Operating or Investing in Physical Commodities Handling Facilities as Complementary Commodities Activity.** An FHC must *not* (i) own, operate, or invest in facilities for the extraction, transportation, storage, or distribution of commodities, or (ii) process, refine, or otherwise alter commodities ("**Physical Commodities Handling Activities**"), as a Complementary Commodities Activity.[109]

    - **Third Parties.** An FHC engaged in Complementary Commodities Activities would be expected to use appropriate storage and transportation facilities owned and operated by third parties,[110] and would not be permitted to commit to enter into service agreements except with accredited, reputable independent third party facilities.[111]

    - **Third-Party Services to Alter Commodities.** An FHC may, as part of its Complementary Commodities Activities, engage a third party to alter a commodity, so long as the FHC commits that (i) it will not alter commodities itself; (ii) both the commodity input and resulting altered commodity will be permissible commodities under the Board's decisions; and (iii) the FHC will not have exclusive rights to the alteration facility.[112]

- **Environmentally Sensitive Physical Commodities.** The FHC must take appropriate steps to "address the risks resulting from [Complementary Commodities Activities] that involve environmentally sensitive produces, such as oil or natural gas," including "obtaining insurance and establishing policies and procedures that are intended to prevent and respond to oil spills and similar incidents."[113]

- **Risk Management Infrastructure.** The FHC must have the "managerial expertise and internal control framework to manage adequately the risks of taking and making delivery of physical commodities as proposed."[114] It also must establish and maintain "policies for monitoring, measuring, and controlling the credit, market, settlement, reputational, legal, and operational risks involved in its

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[109] *See, e.g.*, 2003 Citi Order, *supra* note 81, at 510.

[110] *Id*.

[111] *See, e.g.*, 2008 RBS Order, *supra* note 81, at C67.

[112] 2008 RBS Order, *supra* note 81, at C64.

[113] 79 Fed. Reg. at 3330. The Board observed that "certain FHCs also require that third parties that transport oil for the FHC be a member of a protection and indemnity club, carry the maximum insurance for oil pollution available from the club and have substantial amounts of additional oil pollution insurance from creditworthy insurance companies, use vessels of less than a certain age, use vessels approved by a major international oil company, and use vessels that have appropriate oil spill response plans and equipment." *Id*.

[114] *See, e.g.*, 2006 JPMC Order, *supra* note 81, at C58.

Commodity Trading Activities."[115] These policies should "address key areas, such as counterparty-credit risk, value-at-risk methodology, and internal limits with respect to commodity trading, new business and new product approvals, and identification of transactions that require higher levels of internal approval."[116]

- **Energy Management Services.** An FHC's authority to provide energy management services is subject to several additional conditions that limit the responsibilities and potential liabilities the FHC may assume under an energy management agreement.

  - **Limit Ownership Risks.** Specifically, the FHC must act only as energy manager if the relevant energy management agreement provides that: (i) the owner retains the right to market and sell power directly to third parties, which may be subject to the energy manager's right of first refusal; (ii) the owner retains the right to determine the level at which the facility will operate (*i.e.*, to dictate the power output of the facility at any given time); (iii) neither the energy manager nor its affiliates guarantee the financial performance of the facility; and (iv) neither the energy manager nor its affiliates bear any risk of loss if the facility is not profitable.[117]

  - **Revenues Limit.** In addition, the revenues attributable to energy management services in the United States must not exceed 5% of the FHC's total consolidated operating revenues.[118]

- **Subject to Existing Law.** The FHC must remain subject to the securities, commodities, and energy laws and to the applicable rules and regulations (including the anti-fraud and anti-manipulation rules and regulations) of the Securities and Exchange Commission, CFTC and the Federal Energy Regulation Commission.[119]

2. The Complementary Commodities Activities Remain Complementary to Financial Activities

The Board requested comment on whether these activities are still complementary to financial activities in light of changes in the commodities or financial markets since the Board first approved any of these activities in 2003.[120] In particular, the Board cited the announcements of Deutsche Bank, JPMorgan Chase and Morgan Stanley to sell all or parts of

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[115] *Id.*

[116] *Id*.

[117] 2008 Fortis Order, *supra* note 81, at C22.

[118] *Id*.

[119] *See*, *e.g.*, 2008 RBS Order, *supra* note 81, C65-C66; 2008 Fortis Order, *supra* note 81, C23.

[120] 79 Fed. Reg. at 3334.

their physical commodities businesses.[121] While acknowledging that these market developments may be caused by a variety of factors, the Board said they "may indicate that Complementary Commodities Activities are not necessary to ensure competitive equity between FHCs and competitors conducting commodities derivatives or other financial activities" and that "the relationship between commodity derivatives and physical commodities markets (or the relationship between participants in such markets) may not be as close as previously claimed or expected."[122] If any of the Complementary Commodities Activities are no longer "meaningfully connected" to one or more financial activities, they may no longer be complements to such activities.[123] The Notice observed, however, that the Board "is also evaluating the potential costs and burdens (to FHCs and the public generally) associated with narrowing or eliminating the authority to engage in Complementary Commodities Activities."[124]

The Associations believe that the Complementary Commodities Activities remain complementary to a variety of permissible banking and other financial activities, including Commodity Derivatives Activities or Commodity Advisory Services. For example, it continues to be essential to the competitiveness of an FHC's Commodity Derivatives Activities to be able to make and take physical delivery of physical commodities and to be able to maintain inventories in physical commodities. The fact that some FHCs have announced that they plan to sell or scale back some of their physical commodities businesses does not alter this reality. Moreover, the FHCs cited in the Notice are not necessarily selling their entire physical commodities businesses, but may be scaling them back for a variety of reasons, such as new regulatory and political risks, capital requirements or the reduced profitability of some of these businesses for the time being. Indeed, FHCs routinely enter or exit businesses based on a variety of factors. For instance, many of them have recently sold or scaled back their mortgage servicing and credit card businesses — without raising any concerns about whether these businesses are no longer financial activities.

There has been no change to the business of Complementary Commodities Activities, or to the financial activities they support and complement — including Commodity Derivatives Activities and Derivative Advisory Services — that would alter the rationale set forth in the Board's orders as to why Complementary Commodities Activities complement these financial activities. For example, it is still true that allowing an FHC to engage in physical Commodity Trading Activities better enables the FHC to fulfill its obligations under Commodity Derivatives transactions by allowing the FHC to physically settle a transaction. The following examples illustrate how the Complementary Commodities Activities remain complementary to certain financial activities:

- ***Benefit of Being Able to Take Physical Delivery of Futures to Match Financial Options.*** Companies that manufacture metal components, such as wire, piping,

[121] *Id*.

[122] *Id*.

[123] *Id*.

[124] *Id.*

cathodes, electric motor parts, ammunition, air compressors or marine paint, actively enter into swaps settling against fixed prices. They will enter into fixed swaps as a financial alternative to forward purchasing copper to protect themselves against rising copper prices (these hedges are often referred to as consumer hedges, as they are used to protect price exposures from consuming copper). These swaps are hedged in the futures market with copper contracts on COMEX or the London Metal Exchange, which are the two most widely used futures contracts for physical copper, with COMEX pricing being most dominant with U.S.-domiciled businesses. These futures contracts are both settled physically. With respect to commodities that are priced at an average of the spot month, the ability to take delivery of the futures contract is necessary to provide an exact hedge to the client position. Otherwise, a date mismatch will occur, thereby creating spread risk between spot month and the following month.

- ***Netting Physical and Financial Contracts.*** Banks and companies typically document their trading relationships under master agreements, which will cover multiple trades that sometimes span different product areas. For example, an International Swaps and Derivatives Association ("**ISDA**") Master Agreement, the industry standard master trading document for derivatives, also contains annexes that allow contractual parties to trade physical commodity products, including oil, natural gas, electricity, coal and emissions. Transacting under a single master agreement allows these products to be netted in the event of a default, such that if a customer owes a bank $10 on a financial swap and the bank owes the customer $5 on a physical commodity transaction, the bank's maximum loss is $5 in a workout scenario. Without reducing the credit exposure of the financial trade with the physical trade through netting, the bank's maximum loss would double, equaling $10. In addition, the ability to net exposure across physical and financial products also benefits commercial clients by allowing banks to enter into a larger number of transactions with them without increasing the customer's credit line and exposing the bank to greater risk. The cumulative effect of netting financial transactions with physical transactions significantly benefits the market by increasing capital efficiency while minimizing the credit risk to the bank.

Likewise, there has been no market development that would leave reason to doubt that engaging in Energy Management Services or Energy Tolling enables an FHC to gain additional information about energy markets that would better enable the FHC to manage its own risks and engage in related traditional financial activities for its customers. The physical commodities business and related financial activities are therefore still as close as they were when the Board issued the orders discussed above.

Moreover, it is still the case that the FHCs' competitors are permitted to, and do, benefit from the synergies between the Complementary Commodities Activities and related financial activities. For example, commodity trading houses specialize in the production and analysis of information on physical markets to identify opportunities in corresponding financial markets.

Accordingly, permitting FHCs to engage in Complementary Commodities Activities would continue to enable them to engage effectively in the same financial activities, and offer the same integrated services, that are being pursued by their competitors.

B. Grandfathered Commodities Activities

The Notice stated that certain FHCs are permitted to engage in "a potentially broader set of physical commodity activities than FHCs may conduct under the complementary authority" pursuant to the statutory grandfathering provisions in Section 4(o) of the BHC Act.[125] Section 4(o) permits any company that was not a bank holding company ("**BHC**") prior to enactment of the GLB Act in 1999 but becomes a BHC and an FHC thereafter to continue to engage in activities related to the trading, sale, or investment in commodities and underlying physical properties if the FHC was engaged in *any* of such activities as of September 30, 1997.[126] As both the text and legislative history of Section 4(o) make clear, the grandfathering authority does not have a time limit and was intended to be "construed broadly."[127] Congress also stated that the grandfathered activities "*shall* include owning and operating properties and facilities required to extract, process, store and transport commodities,"[128] and that the purpose of the grandfathering provision was to allow qualified FHCs to continue engaging in physical commodities activities as long as certain conditions were satisfied.[129] The Notice observed that "this authority is automatic," and that two FHCs currently operate under this authority.[130]

Section 4(o) imposes certain limits on the grandfathered activities. It imposes a limit on the amount of assets attributable to such grandfathered activities equal to 5% of an FHC's total consolidated assets or such higher limit as the Board may in its discretion approve. It also imposes cross-marketing restrictions that prevent companies engaged in Grandfathered Commodities Activities from marketing the products or services of any depository institution affiliates and the affiliated depository institutions from marketing the products or services of the companies engaged in Grandfathered Commodities Activities.

Since this grandfathering authority is statutory, the Notice did not request comment on whether it should be scaled back, but the Notice did seek "comment on whether additional prudential requirements could help ensure that activities conducted under section 4(o) of the BHC Act do not pose undue risks to the safety and soundness of the BHC or its subsidiary depository institutions, or to financial stability."[131] It also announced that the "Board is also considering how to address the potential risks to safety and soundness and financial stability" of

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[125] *Id*. at 3336.

[126] 12 U.S.C. § 1843(o).

[127] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995).

[128] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995) (emphasis added).

[129] Amendment No. 9 by Senator Gramm (Mar. 4, 1999), *available at* http://banking.senate.gov/docs/reports/fsmod99/gramm9.htm.

[130] 79 Fed. Reg. at 3336.

[131] *Id.*

such physical commodities activities.[132] These safety and soundness and financial stability issues are discussed in Section IV.B below.

C. Merchant Banking Investments in Portfolio Companies Engaged in Physical Commodities Activities

The Notice stated that "[t]he GLB Act amended the BHC Act to allow FHCs to engage in merchant banking activities."[133] The Merchant Banking Authority in Section 4(k)(4)(H) of the BHC Act permits an FHC to acquire a controlling or non-controlling ownership interest in a company engaged in any nonfinancial activities, including physical commodities activities, subject to each of the following conditions:

- The ownership interest is not acquired or held by a depository institution or a subsidiary of a depository institution.

- The ownership interest is acquired and held by a securities affiliate of the FHC, an affiliate of such securities affiliate, an SEC-registered investment adviser affiliate of an insurance company that meets certain conditions,[134] or an affiliate of such investment adviser affiliate as part of a bona fide underwriting or merchant or investment banking activity, including investment activities for the purposes of appreciation and ultimate resale or disposition of the investment.

- The ownership interest is held for a period of time to enable its sale or disposition on a reasonable basis consistent with the financial viability of the underwriting or merchant or investment banking activities.

- During the period when the FHC holds the ownership interest, the FHC does not routinely manage or operate the company except as may be necessary or required to obtain a reasonable return on investment upon resale or disposition.[135]

The GLB Act required the Board to act jointly with the Secretary of the Treasury in issuing any regulations implementing the statutory merchant banking authority.[136] This rulemaking authority was also limited to provisions that the Board and the Secretary of the Treasury "jointly deem appropriate to assure compliance with the purposes and prevent evasion" of the GLB Act and "to protect depository institutions," and did not provide authority to

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[132] *Id*.

[133] *Id.* at 3334.

[134] The insurance company must be predominantly engaged in underwriting life, accident and health, or property and casualty insurance (other than credit-related insurance), or in providing and issuing annuities. 12 U.S.C. §§ 1843(k)(4)(H)(ii)(II) and 1843(k)(4)(I)(ii).

[135] 12 U.S.C. § 1841(k)(4)(H).

[136] 12 U.S.C. § 1843(k)(7).

undertake a cost-benefit analysis or impose a public interest test.[137] After passage of the GLB Act, the Board, acting jointly with the Treasury Department, issued an interim final rule[138] and final rule[139] implementing the statute, which included safeguards (*i.e.*, no routine management, Section 23A/23B and cross-marketing restrictions, and maximum holding periods) designed to insulate FHCs and their depository institution affiliates from any legal or other liability associated with the nonfinancial activities, including physical commodities activities, of portfolio companies acquired as merchant banking investments. The Board also revised its capital rules[140] to increase the capital required to be held against equity investments in portfolio companies under the Merchant Banking Authority.

The final regulations implementing Section 4(k)(4)(H) are contained in Subpart J of Regulation Y.[141] Among other things, they impose a maximum holding period of ten years (or fifteen if made through a specific type of investment vehicle defined as a "private equity fund"),[142] and prohibit an FHC from being involved in the routine management or operation of a portfolio company other than in exceptional circumstances.[143]

IV. Public Benefits and Potential Risks of Physical Commodities Activities

As noted above, as part of determining whether a physical commodity activity is complementary to a financial activity, "the Board must find that the activity does not pose substantial risk to the safety and soundness of depository institutions or the financial system generally."[144] In addition, "the Board must consider whether performance of the activity by the FHC may reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflict of interests, unsound banking practices, or risk to the stability of the United States banking or financial system."[145]

The authority of FHCs to engage in the Grandfathered Commodities Activities or to make Merchant Banking Commodities Investments is not conditioned on a similar evaluation of the public benefits and potential risks of those activities, presumably because the Congress that enacted the GLB Act in 1999, with large bipartisan majorities in both houses and with strong support from the President,[146] had already determined that the public benefits of those activities

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[137] *Id.*

[138] 65 Fed. Reg. 16460 (Mar. 28, 2000).

[139] 66 Fed. Reg. 8466 (Jan. 31, 2001) (codified at 12 C.F.R. Part 225, Subpart J).

[140] 12 C.F.R. § 3.30 *et seq.*

[141] 12 C.F.R. Part 225, Subpart J.

[142] 12 C.F.R. § 225.172-225.173.

[143] 12 C.F.R. § 225.171.

[144] 79 Fed. Reg. at 3330.

[145] *Id.*

[146] *See supra* note 53.

outweighed their potential risks, and did not want to give the Board the discretion to second guess its determinations. While those congressional determinations cannot bind a future Congress, they are certainly binding on the Board until amended by a statute duly enacted by Congress. Nevertheless, we include in our analysis of the public benefits and potential risks of physical commodities activities those activities that may be conducted under the Grandfathered Commodities Powers in Section 4(o) of the BHC Act or the Merchant Banking Commodities Powers in Section 4(k)(4)(H) of the BHC Act.

The public benefits of continuing to permit FHCs and their non-bank affiliates to engage in physical commodities activities are likely to greatly outweigh the potential risks of those activities, regardless of the source of the legal power for engaging in such activities. The Board expressly determined that this was so with respect to the Complementary Commodities Activities in a series of orders beginning in 2003.[147] It initially did so by direct Board action,[148] but starting in 2006 decided that the determinations were sufficiently routine that they could be made by delegated authority to the Director of the Division of Banking Supervision and Regulation,[149] unless a particular application raised novel issues that required direct Board action.[150] Congress similarly determined in 1999 that the public benefits of permitting the Grandfathered Commodities Activities outweighed the potential risks of those activities, when it provided that the grandfathered commodities activities should be "construed broadly," that they "*shall* include owning and operating properties and facilities required to extract, process, store and transport commodities,"[151] and that the purpose of the grandfathering provision was to allow qualified FHCs to continue engaging in physical commodities activities as long as certain conditions were satisfied.[152] Congress effectively made the same determination with respect to the benefits and potential risks of Merchant Banking Commodities Investments when it defined them as financial activities without any requirement that the Board determine whether the public benefits of such investments outweigh their potential risks.[153]

The same tail risks associated with Commodity Intermediation Activities and Environmentally Sensitive Commodities Handling Activities that exist today existed at the time of those determinations and were known to the Board and Congress when they made their determinations.[154] Nothing that occurred during the financial crisis of 2008 changed this calculus

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[147] *See supra* notes 81 and 82.

[148] *See supra* note 81.

[149] *See supra* note 82.

[150] *See, e.g.*, 2008 Fortis Order, *supra* note 81; 2008 RBS Order, *supra* note 81.

[151] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995) (emphasis added).

[152] Amendment No. 9 by Senator Gramm (Mar. 4, 1999), *available at* http://banking.senate.gov/docs/reports/fsmod99/gramm9.htm.

[153] *See* 12 U.S.C. § 1843(k)(4)(H).

[154] The Board's determinations were made after most of the environmental incidents described in the Notice to illustrate the sort of tail risks associated with environmentally sensitive commodities, including the Deepwater Horizon oil spill (2010) and the natural gas incidents in San Bruno, California (2010) and Middletown,

because neither Commodity Intermediation Activities nor Environmentally Sensitive Commodities Handling Activities played any role in causing the market contagion that destabilized the U.S. financial system in 2008, and physical commodities activities may have actually played a role in mitigating that contagion by providing diversified assets and revenues. Nor are either of these activities likely to result in such market contagion in the future for the reasons described in Section IV.B.6.e below.

Even if the volume of physical commodities activities has increased since 1999 — and the volume has been trending downward recently — the volume engaged in by FHCs is still within the limits established by the Board in its orders as recently as 2011[155] and by Congress in the GLB Act.[156] Moreover, based on the legal analysis contained in the Joint Memorandum of Law attached as Appendix B, the Associations do not believe that the legal risks of those activities have increased or the safeguards available to avoid or mitigate those risks have become more limited since 2007, as the Board suggested in the Notice,[157] or since 2011, when the Board made its most recent determination by delegating authority to the Director of the Division of Banking Supervision and Regulation.[158]

A. Public Benefits

1. Prior Board Determinations

The Board expressly determined in the Complementary Powers Orders[159] that the Complementary Commodities Activities could reasonably be expected to produce the following public benefits:

- **Greater Convenience**. Greater convenience to customers by enhancing the ability of FHCs to provide a full range of commodity-related services;

- **Increased Competition**. Increased competition by enabling FHCs to improve their understanding of physical commodity and commodity derivative markets and their ability to serve as an effective competitor in physical commodity and commodity derivatives markets; and

- **Gains in Efficiency**. Gains in efficiency by allowing FHCs to compete in physically settled OTC derivative markets more economically and hedge risks more efficiently.[160]

Connecticut (2010). 79 Fed. Reg. at 3331. The Congressional determinations were made well after the Exxon Valdez (1989), Three Mile Island (1979) and the Midway-Sunset Oil Field (1910) environmental incidents. *Id.*

[155] 2011 Letter to Andrew Baer, *supra* note 82.

[156] *See, e.g.*, 12 U.S.C. § 1843(o)(2).

[157] 79 Fed. Reg. at 3332.

[158] 2011 Letter to Andrew Baer, *supra* note 82.

[159] *See supra* notes 81 and 82.

2. Congressional Determination

Congress similarly determined in 1999 that the Grandfathered Commodities Activities would produce substantial public benefits when it indicated that the grandfathered commodities activities should be "construed broadly," that they "*shall* include owning and operating properties and facilities required to extract, process, store and transport commodities,"[161] and that the purpose of the grandfathering provision was to allow qualified FHCs to continue engaging in physical commodities activities as long as certain conditions were satisfied.[162]

3. Prior Board and Congressional Determinations Were Correct When Made and Are Still Correct with Respect to All Permissible Physical Commodities Activities

The Board's determinations as recently as 2011 and those by Congress in 1999 were correct when made and they remain correct today with respect to all permissible physical commodities activities regardless of the source of legal authority for the particular activity.

a. Greater Convenience for Customers

Allowing FHCs to continue to engage in any of these physical commodities activities should continue to result in greater convenience for customers. Among other things, customers will continue to enjoy a better and more diverse array of risk-management and financing options as FHCs and their non-bank affiliates will continue to enjoy more flexibility to make or take delivery of physical commodities upon the expiration of a commodity derivatives contract and to maintain inventories.

If FHCs were forced out of the physical commodities markets, businesses would be forced to turn to other types of counterparties: a limited number of commodity trading houses, energy merchant companies, oil companies with trading desks, or other types of traders. These firms do not seek to provide the types of customer-driven, integrated services long provided by FHCs. Rather, their businesses are focused on deploying assets for investment or proprietary trading purposes, not market making. Moreover, these firms are restricted in their ability to offer swap products to other market participants to the extent that they are not registered as swap dealers under Title VII of the Dodd-Frank Act.[163] These firms are less able to offer credit solutions to commodity businesses, and operating companies would be required to set aside more

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[160] *See, e.g.*, 2008 RBS Order, *supra* note 81, at C66; 2003 Citi Order, *supra* note 81, at 510.

[161] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995) (emphasis added).

[162] Amendment No. 9 by Senator Gramm (Mar. 4, 1999), *available at* http://banking.senate.gov/docs/reports/fsmod99/gramm9.htm.

[163] Of the 104 entities currently registered as swap dealers or major swap participants with the CFTC and National Futures Association, all except 4 are entities affiliated with FHCs, broker-dealer firms, or interdealer brokers (BP Energy Company, Cargill Incorporated, Shell Trading Risk Management LLC, MBIA Insurance Corporation). *See* NFA SD/MSP Registry, *available at* https://www.nfa.futures.org/NFA-swaps-information/regulatory-info-sd-and-msp/SD-MSP-registry.html.

capital for transactions with nonbank counterparties. Unlike the commodity activities of FHCs, which are closely monitored by the Federal Reserve and subject to prudential requirements, these commodities trading firms that are not affiliated with banks or broker-dealers are far less regulated or wholly unregulated and often based outside the United States.[164]

By contrast, FHCs are customer-driven and able to offer clients risk management solutions. They are able to provide clients "full service solutions with integrated risk management, financing, and customized" options, including "hedging, asset backed facilities, and working capital facilities."[165] FHCs have the balance sheet capacity, the ability to extend credit, and the risk management expertise to price risk effectively. Moreover, FHCs' broad client coverage networks allow them to effectively distribute and transform risk.[166]

The value of this public benefit can be illustrated by the example of a customer that needs to hedge its exposure to the volatility of the price of some critical input, such as jet fuel, or to finance its inventory of such a critical input. Its needs will be better met, and it will have more choice in counterparties and financial products, if FHCs are permitted to engage in physical commodities activities than if FHCs are forced to exit the market.[167] In particular, and as discussed in greater detail below, the customer is more likely to have access to customized, over-the-counter financial contracts because FHCs and their affiliates are more likely to provide them than the other players in the market. These bespoke products allow customers to hedge their risks and finance their inventories more effectively than if they were only able to do so with standardized, exchange-traded futures contracts, or a narrower range of bespoke contracts.

Other products involve more customization. For example, a refinery may enter into a transaction reflecting the spread between the prices of its input (crude oil) and finished product (gasoline), allowing it to lock-in profit margins and providing cash-flow predictability. For this transaction to be as effective as possible, the pricing is keyed off the crude grades that are actually used by the refiner. Certain crude grades, such as Louisiana light sweet crude, are not actively traded on a financially-settled basis. Thus, an FHC that enters into a spread transaction with a refiner that uses these grades would seek to manage the market risk it assumes by entering into a fixed-price purchase transaction with a producer of the same crude grade referenced in the

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[164] *See* Comment letters on the Notice from Murray Energy Co. (Apr. 4, 2014) (emphasizing that less regulated and creditworthy entities may replace FHCs in commodities markets); United Parcel Service Inc. (Apr. 4, 2014) (same); Alon USA Energy, Inc. (Mar. 14, 2014) (same).

[165] IHS Global, Inc., Comments on Volcker Rule Regulations Regarding Energy Commodities Report, 17 (2012) ("**IHS Volcker Report**"). *See also* Comment letters on the Notice from International Swaps and Derivatives Association, Inc. (Apr. 8, 2014) (noting the ability of FHCs to provide end users with a broad range of customized risk management solutions); United Parcel Service Inc. (Apr. 4, 2014) (noting that FHCs are "particularly sophisticated in constructing hedging transactions and in identifying options to help manage our risks in ways that we otherwise would not have considered").

[166] *See* IHS Volcker Report, *supra* note 165, at 17.

[167] Rudy Ruitenberg, Bank Reform Seen by Schreiber Pushing Commodities Into Opacity, BLOOMBERG BUSINESSWEEK (April 8, 2014) (describing the view of a leading investor that Dodd-Frank rules have already pushed commodities trading away from banks and into unregulated entities).

financial spread transaction. These transactions achieve the dual goals of providing revenue certainty to both the refinery and the producer.

These public benefits will be lost to a considerable degree if FHCs are forced to exit the market because other market participants do not have the balance sheets, business models or incentives to provide the same range of bespoke products to customers. FHCs have the size and expertise to intermediate the full range of transactions and services commodity customers require. FHCs also have the ability to provide credit capacity, which allows companies to free up capital that can be used for other investment purposes. Perhaps most importantly, the credit quality of FHCs, in combination with these other attributes, makes banking entities the preferred — and sometimes the only permitted — counterparty for many operating companies. FHCs can also be expected to remain active in the market even during a financial crisis, providing end users, producers and trading firms with more certainty regarding an uninterrupted supply of bespoke financial contracts. IHS Global, Inc. described the important role that FHCs play as reliable counterparties, as follows:

"Banks have emerged as the credit worthy counterparty to tailor corporate hedging transactions. This customer-facing role is a natural extension to traditional banking services. This client-facing business model creates a primary impetus for being in the physical commodity markets — on behalf of or in support of client needs. There are many important reasons behind the need for these bank services in the commodities markets. For instance, exchange traded solutions frequently are not available, not sufficiently liquid, not available in sufficient size or not appropriately matching the desired period of time, i.e. they create too much basis risk."[168]

b. Increased Competition

The commodities markets will be more competitive, not less competitive, if banks and their non-bank affiliates are allowed to enter and remain in the physical commodities markets, and are not forced to exit them, compared to a world in which their competitors in commodities markets are protected by regulatory barriers to entry that keep banks or their non-bank affiliates out of that market or by regulatory mandates that force them to exit.[169] Indeed, the very heart of our antitrust (pro-competition) laws is to break down barriers to entry or mandates to exit, prevent excessive concentrations of market share and otherwise foster free and robust competition from the greatest number of competitors.[170]

A consequence of making commodities markets more competitive is that market prices will be lower than if the markets were less competitive as a result of regulatory barriers to entry or mandates to exit. It is well-established that prices will be lower in a more competitive market

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[168] IHS Global, Inc., *The Role of Banks in Physical Commodities,* 10 (2013) ("**IHS Commodities Study**").

[169] *See, e.g.*, Gregory Meyer, *A ban on banks holding physical commodities could backfire*, FINANCIAL TIMES (July 26, 2013).

[170] *See, e.g.*, Robert H. Bork, THE ANTITRUST PARADOX (1978).

compared to those in a less competitive market.[171] Another consequence of making commodities markets more competitive is that they will be more liquid and efficient. A more liquid commodities market means that the spread between bid and ask prices of a particular commodity will be lower, and it will be possible to buy and sell larger quantities of the commodity without affecting the market price of the commodity. Markets are generally considered to be more efficient the more liquid they are. Indeed, in the most idealized and efficient market model — the perfectly competitive market model — perfect liquidity is simply assumed when the market is in long-term equilibrium; *i.e.*, there is no spread between bid and ask prices, and actors can buy and sell an unlimited quantity without affecting market prices. All producers and consumers are considered to be "price takers" in such idealized markets.[172] The actual market that is closest to the perfectly competitive model is the market for U.S. Treasury securities, which is considered to be among the most liquid and efficient markets in the world.

c. Gains in Efficiency

The involvement of banks and their non-bank affiliates in the physical commodities markets can also increase the efficiency of supply chains. Specifically, FHCs' trading activities in commodity markets promotes competitive pricing and the efficient allocation of commodities by creating links between regions and products.[173] For example, as explained in the IHS Commodities Study, an FHC may have electricity transmission capabilities between the Midwest and Georgia, which it can use to move power from an oversupplied, lower-priced area in the Midwest to an undersupplied, higher-priced location in Georgia. This activity, which is low risk for the FHC, greatly benefits U.S. end users and consumers by helping to eliminate price disparities, mitigate supply shortages and maintain price stability.[174]

4. Additional Public Benefits

In addition to the public benefits determined by the Board to be reasonably likely if the Complementary Commodities Activities are permitted, continuing to permit FHCs to engage in Complementary Commodities Activities, Grandfathered Commodities Activities and Merchant Banking Commodities Investments can reasonably be expected to produce a variety of additional public benefits, including the benefits described below.

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[171] *See, e.g.*, James R. Kearl, ECONOMICS AND PUBLIC POLICY: AN ANALYTICAL APPROACH 225 (Pearson, 6th ed. 2011).

[172] *Id*. at 157.

[173] IHS Commodities Study, *supra* note 168, at 9 (citing Scott H. Irwin, Dwight R. Sanders and Robert P. Merrin, Devil or Angel? The Role of Speculation in the Recent Commodity Price Boom (and Bust), 41 J. Agricultural & Applied Economics); *see also* Comment letter on the Notice from International Swaps and Derivatives Association, Inc. (Apr. 8, 2014) (emphasizing the role of FHCs in promoting the efficient functioning of physical and financial markets, creating important "benefits for market participants, including reduced transaction costs, decreased market volatility, greater predictability and improved price discipline").

[174] IHS Commodities Study, *supra* note 168, at 9.

a. Increased Liquidity in the Commodities Markets

Permitting FHCs and their non-bank affiliates to make markets in physical commodities has increased and can be reasonably expected to continue to increase the liquidity of the commodities markets, reducing the spread in bid and ask prices and increasing the volume of commodities that can be bought and sold without affecting market prices.[175] As market makers, FHCs bear the price risk between the arrival of sellers and buyers, which can lead to temporary accumulations of inventory. By acting as counterparties in trades and by accumulating inventories in anticipation of customer demand in their role as market makers, FHCs therefore provide much needed liquidity.[176] Although FHCs acting as market makers in commodities are mostly known for their activities at the long-dated end of the forward oil and natural gas curves, they also "provide liquidity at the short-dated end of the curve by managing their own positions."[177] FHCs also finance other market participants, such as commodity traders and end users, through physical repurchase agreements. These FHCs, by dealing in physical commodities, thereby facilitate participation in the market by other entities, which further contributes to market liquidity.

FHCs' market making commodities activities provide significant liquidity to both exchanges and the OTC markets. Such provision of liquidity is beneficial to the public, as a reduction in liquidity would result in "increased price volatility for energy commodities, wider bid-ask spreads, reduced access to services, and increased basis risk for hedging strategies."[178]

b. Increased Price Convergence Between the Physical and Derivatives Markets

Allowing FHCs to engage in physical commodities activities in both the physical and derivatives markets has helped foster and will continue to foster convergence of prices in the physical and derivatives markets, resulting in more efficient commodities markets, with lower price volatility and increased certainty. Unlike other financial assets, commodity instruments are related to a physical product. Accordingly, financial markets should tie or "converge" to these physical markets at expiry, meaning that settlement prices of derivative contracts should meet the prices of the physical commodity.

Divergence between these prices may reflect an inefficiency of the financial instrument's use as a hedge of commodity prices. Such a divergence may result in end users having to absorb

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[175] *See* Comment letters on the Notice from International Swaps and Derivatives Association, Inc. (Apr. 8, 2014) (emphasizing that FHCs provide liquidity in commodity markets through their market making activities); Murray Energy Corporation (Apr. 4, 2014) (same); American Gas Association, et al. (Mar. 31, 2014) ("We are concerned that, especially in the markets for customized commodity derivatives, a retreat by FHC affiliates will lead to greater market illiquidity and inefficient pricing").

[176] Ricardo Lagos, Guillaume Rocheteau and Pierre-Olivier Weill, "Crises and Liquidity in Over-the-Counter Markets," NBER Working Paper No. 15414 (Oct. 2009).

[177] IHS Volcker Report, *supra* note 165, at 18.

[178] IHS Volcker Report, *supra* note 165, at 7.

risks that they otherwise seek to shed through the purchase or sale of such financial instruments. When end users purchase a physical commodity for their business, the price they pay is the prevailing price in the market for the actual commodity. To the extent that an end user uses derivative instruments (such as futures contracts or swaps) to hedge against changes in that price, the end user is at risk if the settlement price of the hedge diverges from the price of the actual commodity. To the degree that the prices diverge, there will be arbitrage opportunities that market participants can ameliorate by taking offsetting financial and physical positions until prices do converge.

FHCs improve price convergence by providing intermediation services that connect buyers and sellers across locations, time periods and products, as FHCs stand ready to deliver product or receive delivery of product in the various markets in which they intermediate. Because FHCs are in the markets for both commodity instruments and related physical products, they promote efficient markets and help to maintain pricing relationships — *i.e.*, they improve price convergence in both physical and financial commodities markets. FHCs thus promote the efficiency of commodity markets, providing liquidity and helping drive more efficient price formation.[179]

c. More Publicly Transparent Commodities Markets

Because FHCs and their non-bank affiliates are subject to more and better reporting and disclosure requirements than the privately held foreign commodity trading and investment firms that would probably dominate the physical commodities trading markets if FHCs were forced to exit those markets, FHC participation in these markets provides the public and U.S. regulators, including the Financial Stability Oversight Council, with a better window into the U.S. physical commodities markets than they otherwise would have and fosters more publicly transparent commodities markets.

d. More Economical Financing of Inventories by End Users

FHCs can play an important role in helping commodity producers to reduce their operating costs, efficiently manage their cash flow and reduce their working capital. By having the ability to take title to and the right to dispose of commodity inventories, the FHC is able to provide a larger amount of financing than would be possible were the transaction structured as a secured loan.

Consider the example of a crude oil refiner that wants to finance its inventory economically in order to manage cash flow and optimize working capital. The producer can do so by borrowing from an FHC intermediary and temporarily passing title to the inventory to the FHC. Because the FHC can hold title, it can significantly reduce the credit risk from this transaction, and this in turn allows it to offer better terms to the refiner in the form of lower borrowing costs or a reduced (or no) haircut on the inventory. As a result, the refiner is able to

[179] IHS Commodities Study, *supra* note 168, at 9.

invest in its business more efficiently, and it receives a return of the title to its inventory when the secured transaction expires.

In fact, many if not most physical commodities transactions have a financing component that is clearly within an FHC's traditional activity of providing financing, which supports the Associations' view that physical commodities activities remains complementary to financial activities. Physical hedging provides less basis risk than futures markets, but also allows customers to finance the margin they otherwise would have to post to the exchange through a credit line offered by the bank (which may or may not be secured by the lender's collateral pool). Inventory management transactions, such as the jet fuel example discussed below, physical commodity repurchase agreements, and metal lending and consignment agreements are alternative forms of secured inventory finance that could also be accomplished through an asset-backed or unsecured loan. However, many companies prefer to use these structures because: (i) they can result in commodities being removed from or not being added to their balance sheets, and (ii) the bank has greater control over the collateral.

e. Reliable Supplies, Steady Prices and Specified Inputs Through Customized Hedging

Many commodities consumers and producers require customized OTC contracts with specialized terms in order to meet their risk management needs. Specialized contracts typically include terms such as non-standard locations for delivery, unusual maturity dates or commodities of a specific grade or quality. Without these customized contracts, producers and consumers would face higher basis risk — the risk that the hedge does not perfectly offset the physical position being hedged.

An FHC's ability to hold physical commodities supports its ability to offer its clients customized hedges to meet their risk management needs, and to offset the risk the FHC assumes through a mixture of financial contracts and physical holdings. FHCs cannot safely provide these customized OTC contracts to producers and consumers unless they can dynamically hedge their risks by buying and selling physical commodities.[180]

The following examples illustrate the use of customized hedging to secure supply or price for consumers and producers:

- A widget producer routinely purchases commodities as inputs in its business. Standardized futures contracts provide only a partially effective hedge because the settlement price underlying the financial contract is set ahead of time as of a specified future date, while the widget producer buys its inputs every day and at different prices each day. Because it can hold physical commodities as well as trade financial contracts, an FHC can create a custom hedge for the producer that uses a daily average price rather than the price on a specific date. This better

[180] *Id*. at 11.

covers the producer's exposure to price changes and reduces the variability of its input costs and thus of its earnings.

- An airline needs to have a reliable source of jet fuel with deliveries every day, in variable quantities and in various locations. The airline can both reduce its operating costs and enhance the reliability of its supply by arranging for a long-term contract with an FHC. While a standardized contract would offer a set amount at a set location on a specific date, the FHC can deliver the quantity needed, in the appropriate locations, on the necessary days. To do so, the FHC needs to be able to take physical delivery from standardized contracts, as well as to hedge its market risk using financial contracts. Ultimately the cost to the airline is lower, because with lower basis risk it does not need to maintain its own outsized inventory in order to smooth supply.[181]

- A utility company may need to take physical delivery of a commodity when the heating season begins in late October, meaning that a standardized financial contract maturing at the end of September or the end of December will not provide an effective hedge. A customized contract can alleviate this risk. The FHC must be able to take physical delivery in order to provide the customer with the commodity on the specified date.

- A wire manufacturer may need copper delivered to the hub that is closest to its factory in the U.S. Midwest, in order to avoid additional transportation costs and potential delays. The financial contract for copper, however, may not assure delivery in that specific location, and the Midwest customer relying on a financial contract could find itself taking delivery of the commodity in Singapore. A customized contract with an FHC can ensure delivery at the specified location. At a minimum, this ensures that the consumer pays the local cost, without additional transport fees; the contract likely reduces timing uncertainty for delivery as well. This lowers the cost for the FHC's customer and ultimately the end-user consumer.[182]

In short, end users rely on FHC intermediaries to obtain hedge products that provide a degree of customization that is not available in standardized contracts, such as those offered by futures exchanges and swap execution facilities. This is important not only from the standpoint of obtaining products that more closely offset the risks of a business but also to enable the company to achieve "hedge" accounting treatment under generally accepted accounting principles. Such accounting treatment requires a degree of measurable correlation between the company's risk and the contractual offset. Having this treatment allows companies to reflect in their financial reports the offset of risk exposure to hedge instrument that avoids the appearance

[181] IHS Volcker Report, *supra* note 165, at 25-26.

[182] *Id*. at 10.

of unnecessary volatility that would be created by the reporting of changes in the value of hedge contracts in isolation.

f. Help Small and Mid-Sized Businesses Expand Their Scale and Geographic Reach

FHCs can use their scale and global reach to achieve better terms for end users than the clients could obtain on their own. For example, small- and medium-sized producers have driven much of the investment in shale gas over the past five years. They have been able to do so even as the price of natural gas fell by more than half between 2008 and 2013, thanks to hedging agreements with FHC counterparties. Locking in higher prices through hedging helped these firms to make significant investments in development, helping to expand the diversity of the U.S. energy supply and create jobs for U.S. workers.

Consider also a mid-sized U.S. steel company that uses coal at a plant in the U.S. Its larger competitors can obtain coal less expensively, because they have access to global sources of supply that the mid-sized U.S. firm lacks. But the steel company could enter into a contract with an FHC, whereby the FHC agrees to purchase the coal directly from the overseas producer, arrange for vendor transportation and finally ensure its delivery to the company's plant. Because of this arrangement, the steel company is able to take advantage of the FHC's large scale and to avoid significant exposure to foreign counterparties. The FHC can be a lower cost provider of this service because it has existing relationships with overseas producers and because it can more cheaply hedge the residual risk.

g. Merchant Banking Financing to Small and Mid-Size Companies, including Start-ups

In addition, as recognized by Congress in passing the GLB Act, merchant banking investments can play an important role as a source of finance for small and mid-size companies, including start-ups. Senator John Kerry specifically commented on this role of the merchant banking authority in the discussion of the Conference Report on the proposed GLB Act:

> "I am also glad that the conference report will permit financial institutions to engage in merchant banking activities. This will allow banks to invest in small companies for the purpose of appreciating and ultimately reselling the investment. The merchant banking provisions limit the day-to-day management of companies by financial institutions and the duration of the investment. I am hopeful that these new powers will allow banks to provide more capital for small businesses, which have been leading contributors to the economic growth of our country."[183]

[183] Statement of Senator John Kerry, *Discussion of Financial Services Modernization Act of 1999, Conference Report*, 145 Cong. Rec. S. 13883, 13904 (Nov. 4, 1999).

The Conference Report for the GLB Act recognized the "essential role that [merchant banking] activities play in modern finance."[184] Between 1983 and 2009, 30% of all U.S. private equity investments were sponsored by the private equity arm of a large bank.[185] FHCs engage in merchant banking investments across a wide variety of industries throughout the economy.[186]

FHCs make merchant banking investments in a wide range of small to mid-sized companies, but often seek out start-up companies with economic potential and sound management teams capable of developing and expanding businesses. Equity financing to start-ups is a driver of new jobs and innovation. Successful start-ups such as Facebook,[187] Twitter,[188] LinkedIn[189] and PayPal[190] have all been financed in part by bank equity investments. In making these investments in start-up and small, privately held companies, FHCs provide an alternative form of financing to traditional bank loans and the issuance of capital markets debt, which can be more expensive for companies that are in the early stages of their development. FHCs also provide an alternative to venture capital and private equity firms as a source of this type of financing, thus increasing competition for these investment activities to the benefit of the target companies.

FHCs are particularly well-suited to providing ready capital access to businesses engaged in physical commodities activities. Because of their diverse financial activities, FHCs have the ability to make capital available in different layers of a company's capital structure, including senior secured debt, mezzanine debt, subordinated debt, preferred equity or common equity, based on a portfolio company's needs and the circumstances of the transaction. In addition, FHCs can provide portfolio companies with access to more traditional banking services and banking relationships, including providing loans, investment advisory, brokerage and other banking and financial services. This creates potential information synergies that can lead to a better-informed basis for making credit decisions and providing other more effective services to

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[184] H.R. Conf. Rep. No. 106-434 to Accompany S. 900, Gramm-Leach-Bliley Act, at 154 (Nov. 2, 1999); *see also* S. Rep. No. 106-44 to Accompany S. 900, Financial Services Modernization Act of 1999, at 9 (Apr. 28, 1999); H.R. Rep. 106-74 Part 1 to Accompany H.R. 10, Financial Services Act of 1999, at 122 (Mar. 23, 1999).

[185] Lily Fang, Victoria Ivanshina and Josh Lerner, *Combining Banking with Private Equity Investing*, Review of Financial Studies 26, 9, at 2139 (2013).

[186] *See* IBISWorld Industry Report OD6088, "Merchant Banking Services in the US," at 15 (Feb. 2014).

[187] *See* Brian Womack and Douglas MacMillan, "Goldman Sachs Said to Invest $450 Million in Facebook," Bloomberg News (Jan. 3, 2011), *available at* http://www.bloomberg.com/news/2011-01-03/facebook-valued-at-50-billion-as-goldman-is-said-to-invest-450-million.html.

[188] *See* Tim McLaughlin & Ross Kerber, "T. Rowe, Morgan Stanley Funds Sitting on Whopper Twitter Gains," Reuters (Nov. 6, 2013), *available at* http://www.reuters.com/article/2013/11/06/funds-twitter-ipo-idUSL2N0IR10I20131106.

[189] *See* "LinkedIn Raises $22.7 Million from Goldman Sachs, The McGraw-Hill Companies, SAP Ventures and Bessemer Venture Partners," Bloomberg Business Wire (Oct. 23, 2008), *available at* http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aVSVDeQL4y6c.

[190] *See* "X.com Announces $100 Million Financing Round: Leader in Email Payments Will Continue Rapid Customer Growth" (Apr. 5, 2000), *available at* https://www.paypalobjects.com/html/pr-040500.html.

portfolio companies.[191] In short, merchant banking investments by FHCs can lay the foundation for longer-term, traditional banking relationships for portfolio companies engaged in physical commodities activities.

h. Contribute to the Development of New Technologies and Renewable or "Green" Energy Infrastructure in North America

The North American energy industry is undergoing a fundamental transformation. The overwhelming direction of the shift has been toward a market-based infrastructure, emphasizing increased reliance on new technologies and renewable energy. FHCs have played an important role in helping to facilitate this transformation, which has led to significant benefits to the global economy and particularly North American companies. In particular, merchant banking investments by FHCs in wind farms, solar energy and other renewable energy projects have helped to provide capital and other funding to these projects. Without access to physical markets, FHCs could not have contributed to this growth in renewable energy to the same extent.

The transformation began in the early 1990s with the de-regulation of electricity, which resulted in the separation of generation, transmission and distribution functions. Regional transmission organizations, such as PJM and the New England Power Pool, managed this change with newly created power trading markets, which provide liquidity and pricing transparency for electrical power and related products. In addition, various state public utility commissions established processes by which local utilities procured power generation to meet their customer load requirements through competitive auctions. In 2008, the advent of widespread shale gas investments in the United States coincided with new emission restrictions, renewable energy usage requirements, and renewable energy incentives, which have each contributed to fundamental shifts in how electricity generation is sourced.

Among the shifts associated with this transformation are the following:

- Greater reliance on generation independent from regulated distribution utilities;
- Increased participation by the infrastructure sector by new sources of capital; and
- Increased use of natural gas as fuel source and renewable energy with related development projects and decreased reliance on coal-fired generation.

The following examples reflect the role played by FHCs in promoting the dynamics that have led to these shifts:

- ***Renewable Energy Project.*** A developer seeks to build a wind farm generation project that will become a significant source of renewable energy in its state. The developer seeks financing to fund a substantial portion of the project's costs. In order to ensure that the project is able to repay the debt even in a lower-priced

[191] Fang, *supra* note 185.

power market, the banks providing the financing require that the project enter into a long-term fixed price sale agreement with a creditworthy counterparty. The project company conducts a competitive bid process for the sales contract and selects an FHC to be the purchaser based on the pricing and terms that the FHC proposes. The power that is produced by the wind farm is delivered at the point of the project that connects to the electricity grid, which is referred to as a "node." Local utilities, which need to buy power to meet the demands of their retail customers, choose to purchase such power at liquid trading hubs, not specific "nodes" of interconnection. However, the project company does not wish to assume the responsibility or risk for transmitting the power it produces from the "node" to the local trading hub at which the utilities are active purchasers. Accordingly, the project company stipulates in its power sale agreement that the FHC purchaser take delivery at the node, thereby shifting responsibility for arranging transmission to the FHC. Thus, the FHC power purchaser manages two primary market risks: (i) a decrease in the price of power at the trading hub and (ii) an increase in the cost of transmission from the node to the hub. The FHC manages these risks by entering into transactions with transmission providers and purchasers of power that seek delivery at the local trading hub.

- ***Acquisition of Generation Assets.*** With the advent of competitive power markets, distribution utilities that own generation assets find that their assets are less competitive than pricing generally available in the market. In light of this, state public utility commissions either allow or direct utilities within their jurisdiction to dispose of generation assets so as to alleviate the utilities (and their customers) from the burden of maintaining them. At the same time, investors, such as infrastructure funds sponsored by FHCs under the merchant banking rule but subject to the Volcker Rule, are able to acquire such assets and invest in them while achieving the return targets dictated by investment guidelines. To achieve these return targets, however, investors must capitalize their investment by using a combination of debt and equity.

- ***Power Plant Project Finance.*** A private equity fund investor acquires a power plant being sold by a utility using a project company. In conjunction with the acquisition, the project company borrows an amount equal to a significant portion of the purchase price to achieve the required capital structure. The lenders condition their loan on the project company protecting itself from the primary market risks that exist in its business, namely: (i) a decrease in power prices or (ii) an increase in fuel prices. The project company enters into a long-term hedging arrangement with an FHC to protect itself from these risks. The arrangement takes a form common in the market, providing for a financially-settled gas hedging swap (the FHC pay floating price; project company pays fixed price) and a fixed-priced physically-settled power purchase commitment.

i. Increased Resiliency of FHCs by Providing Greater Diversification of Revenue Streams

Allowing FHCs to engage in physical commodities activities will increase their resiliency by diversifying their consolidated assets and revenue streams to include a source of assets and revenue that may not be as correlated with the asset values and revenues from their other financial activities. It has long been well-established that, all things being equal, increased diversification of investments or activities reduces risk.[192] Such a reduction in risk should result in lower net losses, as the losses from one activity are offset by gains in another activity. This, in turn, should help diversified institutions to protect and even improve their financial condition over time.

B. Potential Risks, Safeguards and Effectiveness of Safeguards

As noted above, the Complementary Commodities Activities are subject to the Board's determination that their public benefits outweigh their potential adverse effects. In contrast, neither the authority to engage in the Grandfathered Commodities Activities nor the authority to make Merchant Banking Commodities Investments is conditioned on the Board performing any such evaluation. The Congress that enacted the GLB Act in 1999 appears to have determined that the potential risks of the Grandfathered Commodities Activities and the Merchant Banking Commodities Investments were outweighed by their public benefits, without requiring any separate determination by the Board. Nevertheless, the Board has the authority to obtain a cease-and-desist order against any BHC for any unsafe or unsound practice, including conducting otherwise permissible activities in a manner that amounts to an unsafe or unsound practice.[193] The Notice therefore asks questions about the potential risks of not only the Complementary Commodities Activities, but also the Grandfathered Commodities Activities and the Merchant Banking Commodities Investments, as well as the safeguards designed to mitigate those risks and the effectiveness of those safeguards.[194] Most of these potential risks and safeguards are the same regardless of whether the particular activity is conducted under the Complementary Powers Authority, the Commodities Grandfathering Authority or the Merchant Banking Authority. Accordingly, while we address the issues as framed in the Notice, we generally address them without differentiating among whether the particular commodities activity is being conducted under the Complementary Powers Authority, the Commodities Grandfathering Authority or the Merchant Banking Authority.

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[192] *See, e.g.*, Harry M. Markowitz, PORTFOLIO SELECTION: EFFICIENT DIVERSIFICATION OF INVESTMENTS (Wiley 1959); Paul Samuelson, GENERAL PROOF THAT DIVERSIFICATION PAYS, JOURNAL OF FINANCE AND QUANTITATIVE ANALYSIS (Mar. 1967).

[193] 12 U.S.C. § 1818(b); Bank Holding Company Supervision Manual, § 2110 (Jan. 2013).

[194] 79 Fed. Reg. at 3333-3334 (Questions 1-12 relating to the potential risks of the Complementary Commodities Activities; 3335 (Questions 19-22 relating to the potential risks of the Merchant Banking Commodities Investments); 3336 (Questions 23-24 relating to the potential risks of the Grandfathered Commodities Activities).

Although the Associations believe that the potential risks associated with physical commodities activities are generally outweighed by their public benefits if conducted in accordance with appropriate safeguards such as those described in Appendix C, we believe that it is essential that FHCs identify and comply rigorously with appropriate safeguards designed to mitigate any tail risks associated with physical commodities activities, including those associated with Environmentally Sensitive Commodities Handling Activities. To the extent some FHCs are not doing so, the Board should require them to do so as part of the supervisory process. The Board should also encourage all FHCs to evaluate and monitor the potential risks of their physical commodities activities and seek to improve their risk management of such activities in each case on a regular basis. The Associations do not believe, however, that it is necessary for the Board to issue any new regulations to reduce the potential risks, including any of the amendments to the merchant banking rules in Subpart J of Regulation Y, as suggested by the Notice.

1. Framing the Issues

a. Complementary Commodities Activities

While observing that the Board has placed limitations on the Complementary Commodities Activities "designed to reduce safety and soundness risks,"[195] the Notice expressed concern that "recent incidents suggest that review of these limits is prudent to determine their adequacy in protecting safety and soundness and financial stability."[196] The Notice focused on the potential risks of owning environmentally sensitive commodities.[197]

First, the Notice asked whether the prohibition on engaging in Physical Commodities Handling Activities under the Complementary Powers Orders is sufficient to mitigate the tail risks of Environmentally Sensitive Commodities Handling Activities to an acceptable level. The Notice observed that the owners of physical commodities can be held liable for damages arising out of "catastrophic events even if the FHCs hire third parties to store and transport the commodities."[198] It explained that such liability could arise under the Oil Pollution Act ("**OPA**"), the Clean Water Act ("**CWA**") or the Comprehensive Environmental Response, Compensation, and Liability Act ("**CERCLA**"), if the relationship of the owners of the underlying commodities "with the third party contractor were deemed to constitute the ownership or operation of transportation or storage facilities under those laws."[199] The Notice also observed that "parties not liable as owners or operators under relevant federal law may be held liable under common

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[195] *Id.* at 3332. *See supra* Section III.A.1.d.

[196] 79 Fed. Reg. at 3332.

[197] *Id*. at 3332-3333.

[198] *Id*.

[199] *Id*.

law, including liability arising from the actions of the third parties hired to store and transport commodities."[200]

Second, the Notice asked whether existing policies and procedures designed to mitigate the storage and transportation risks of environmentally sensitive commodities are effective.[201] The Notice observed that these policies and procedures include "age limits on vessels, approval of vessels by a major international oil company, inspection and monitoring of vessels, and backup plans for oil spill responses."[202] The Notice argued that the "oil spill involving the Deepwater Horizon drilling unit suggests that current industry safety policies and procedures may not prevent a major environmental disaster and may call into question the effectiveness of such procedures."[203]

Third, the Notice asked whether "the capital and insurance that FHCs hold for their Complementary Commodities Activities, and the insurance that FHCs require their oil vessel operators to hold," are adequate to "protect FHCs from the degree and types of costs associated with all commodity-related environmental disasters."[204] The Notice expressed concern that the amount of capital or insurance might not be sufficient to cover potential losses and that "certain types of significant costs, such as those associated with clean-up, may be expressly excluded from the insurance policies."[205] In addition, the Notice expressed concern that it may not be possible to determine the extent to which an insurance policy will cover a particular incident without litigation.[206]

Fourth, the Notice asked whether traditional methods of ensuring corporate separateness are effective in limiting liability for discharges of environmentally sensitive commodities. While noting that "parent companies generally are not liable for the actions of their subsidiaries," the Notice observed that "parent companies may incur such liability in a variety of circumstances for a variety of reasons."[207] Because of the "diverse set of circumstances under which the corporate veil may be pierced," the Notice expressed concern that "the Board and FHCs may not be able to accurately predict whether courts would respect the corporate veil between a top-tier FHC and its subsidiary when the subsidiary is liable for extensive damages caused by its Complementary Commodities Activities."[208]

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[200] *Id*.

[201] *Id*.

[202] *Id*.

[203] *Id*.

[204] *Id.* at 3332-3333.

[205] *Id*. at 3333.

[206] *Id*.

[207] *Id.*

[208] *Id*.

Fifth, the Notice asked whether the tail risks associated with the ownership of environmentally sensitive commodities, together with an FHC's interest in preserving its reputation, could result in the sort of market contagion that destabilized the U.S. financial system in 2008.[209]

Finally, the Notice requested comment on whether the Complementary Commodities Activities involved any conflicts of interest that are not addressed by existing law,[210] and whether the potential adverse effects from the Complementary Commodities Activities, such as undue concentration of resources, decreased or unfair competition, conflicts of interest, unsound banking practices, or risk to the stability of the United States, outweigh their public benefits.[211]

b. Grandfathered Commodities Activities

The Notice observed that "[t]he statutory grandfathering authority in section 4(o) of the BHC Act permits certain BHCs to engage in a potentially broader set of physical commodity activities than FHCs may conduct under the complementary authority . . . and without the limitations on duration and control contained in merchant banking authority."[212] Nevertheless, according to the Notice, "grandfathered physical commodity activities may pose risks to safety and soundness of the grandfathered FHCs and to financial stability."[213] Thus, the Notice explained, "the Board is seeking comment on whether additional prudential requirements could help ensure that [Grandfathered Commodities Activities] do not pose undue risks to the safety and soundness of the BHC or its subsidiary [IDIs], or to financial stability."[214]

c. Merchant Banking Commodities Investments

The Notice observed that many of the requirements and limitations applicable to Merchant Banking Commodity Investments are designed to ensure the corporate separateness between a portfolio company and its IDI and non-IDI affiliates in order to limit the liability of such affiliates for the activities and investments of the portfolio company.[215] The Notice observed that because "certain physical commodities activities may cause catastrophic events that could subject the involved companies to substantial legal, environmental, and reputational risk," it is important to review whether the current requirements and limitations designed to ensure corporate separateness will be respected in the case of an environmental incident involving a portfolio company.[216] The Notice observed that the Board is considering a number of

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[209] *Id*. at 3333. *See also id*. at 3331-3332.

[210] *Id*. at 3334, Question 16.

[211] *Id.* at 3334, Question 17.

[212] *Id*. at 3336.

[213] *Id*.

[214] *Id*.

[215] *Id.* at 3334, 3335.

[216] *Id*. at 3335.

actions to strengthen existing requirements and limitations. According to the Notice, "[t]hese actions could include (i) more restrictive merchant banking investment holding periods; (ii) additional restrictions on the routine management of merchant banking investments; (iii) additional capital requirements on some or all merchant banking investments; and (iv) enhanced reporting to the Federal Reserve or public disclosures regarding merchant banking investments."[217]

2. Prior Board Determinations

The Board expressly determined in the Complementary Powers Orders as recently as 2011[218] that the Complementary Commodities Activities would not pose excessive risks to FHCs, their IDI subsidiaries or the U.S. financial system, if conducted in compliance with the safeguards specified in those orders.[219]

3. Congressional Determinations

Congress similarly determined in 1999 when it enacted the GLB Act that the Grandfathered Commodities Activities and Merchant Banking Commodities Investments would not generally pose excessive risks to FHCs, their IDI subsidiaries or the U.S. financial system when conducted in compliance with the statutory safeguards applicable to each of those activities. In particular, Congress indicated that the grandfathered commodities activities should be "construed broadly," that they "*shall* include owning and operating properties and facilities required to extract, process, store and transport commodities,"[220] and that the purpose of the grandfathering provision was to allow qualified FHCs to continue engaging in physical commodities activities as long as certain conditions were satisfied,[221] subject to the Board's general cease-and-desist authority to prevent any otherwise permissible activity from being conducted in a manner that amounts to an unsafe and unsound practice.[222]

4. Prior Board and Congressional Determinations Were Correct When Made and Are Still Correct with Respect to All Permissible Commodities Activities

The determinations made by the Board between 2003 and 2011 and those made by Congress in 1999 were correct when made and remain correct today. The same tail risks associated with Environmentally Sensitive Commodities Handling Activities that exist today existed at the time of those determinations and were known to the Board and Congress when

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[217] *Id*.

[218] *See supra* notes 81 and 82.

[219] *See supra* Section III.A.1.d.

[220] H.R. Rep. No. 104-127, Part 1, at 97 (May 18, 1995) (emphasis added).

[221] Amendment No. 9 by Senator Gramm (Mar. 4, 1999), *available at* http://banking.senate.gov/docs/reports/fsmod99/gramm9.htm.

[222] *See supra* note 193 and accompanying text.

they made their determinations.[223] Nothing that occurred during the financial crisis of 2008 changed this calculus because neither Commodity Intermediation Activities nor Environmentally Sensitive Commodities Handling Activities played any role in causing the market contagion that destabilized the U.S. financial system in 2008, and physical commodities activities may have actually played a role in mitigating that contagion by providing diversified assets and revenues. Nor are either of these activities likely to result in such market contagion in the future for the reasons described in Section IV.B.6.e below. In addition, even if the volume of physical commodities activities has increased since 1999 — and the volume has been trending downward recently — the volume engaged in by FHCs is still within the limits established by the Board in its orders as recently as 2011[224] and by Congress in the GLB Act.[225] Moreover, based on the legal analysis contained in the Joint Memorandum of Law attached as Appendix B, the Associations do not believe that the legal risks of those activities have increased or the safeguards available to avoid or mitigate those risks have become more limited since 2007, as the Board suggested in the Notice,[226] or since 2011, when the Board made its most recent determination by delegating authority to the Director of the Division of Banking Supervision and Regulation.[227]

That being said, the Associations believe that it is essential that FHCs identify and comply rigorously with appropriate safeguards designed to mitigate any tail risks associated with physical commodities activities, including those associated with Environmentally Sensitive Commodities Handling Activities. To the extent some FHCs are not doing so, the Board should require them to do so as part of the supervisory process. The Board should also encourage all FHCs to evaluate and monitor the potential risks of their physical commodities activities and seek to improve their risk management of such activities, in each case on a regular basis. The Associations do not believe, however, that it is necessary for the Board to issue any new regulations to reduce the potential risks, including any of the amendments to the merchant banking rules in Subpart J of Regulation Y, as suggested by the Notice.

5. Current State of the Law Regarding Potential Liability from Physical Commodities Activities

The Joint Memorandum of Law, attached to this letter as Appendix B, summarizes the potential liabilities of FHCs, their IDI subsidiaries, non-IDI subsidiaries and portfolio companies arising out of their physical commodities activities under current U.S. environmental laws, including judicial interpretations and applicable common law. It discusses both the direct and

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[223] The Board's determinations were made after most of the "environmental catastrophes" described in the Notice to illustrate the sort of tail risks associated with environmentally sensitive commodities, including the Deepwater Horizon oil spill (2010) and the natural gas incidents in San Bruno, California (2010) and Middletown, Connecticut (2010). 79 Fed. Reg. at 3331. The Congressional determinations were made well after the Exxon Valdez (1989), Three Mile Island (1979) and the Midway-Sunset Oil Field (1910) environmental incidents. *Id.*

[224] 2011 Letter to Andrew Baer, *supra* note 82.

[225] 12 U.S.C. §§ 1843(k)(4)(H), (o).

[226] 79 Fed. Reg. at 3332.

[227] 2011 Letter to Andrew Baer, *supra* note 33.

indirect liability schemes addressed in the Notice, with a focus on what the Notice describes as tail risks associated with activities related to environmentally sensitive commodities. The principal conclusions of the Joint Memorandum of Law can be summarized as follows:

- An extensive body of environmental statutes and regulations is designed to prevent environmental incidents in the first instance and to allocate liability when such incidents occur.

- Under these laws, the parties responsible for damages resulting from the release of an environmentally sensitive commodity include the owner and operator of the facility from which the release occurred, as well as parties that directly handle the commodity or arrange for its treatment or disposal. Liability typically does not attach to an entity that merely owns a commodity that is released, or that enters into ordinary course contracts for transportation or storage. Nor does liability typically attach to an entity that merely invests in a business that is engaged in the activity that gives rise to the release.

- An investor in an operating company is not liable for environmental damages unless it becomes involved in the environmental affairs of the operating company, particularly as they relate to potentially polluting activities, or so dominates and controls the operating company that the two can be characterized as "alter egos" under common law principles.

- Investors in entities that own or operate facilities that handle environmentally sensitive commodities are generally protected from indirect, derivative liability by well-established principles of corporate separateness so long as they abide by appropriate guidelines, such as those described in Appendix C.

These conclusions allow us to draw a sharp distinction between Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, and Environmentally Sensitive Commodities Handling Activities.

a. Commodity Intermediation Activities

The potential loss associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, is limited to the value of the commodities involved, and the legal liability risk of such activities is very small, provided that the FHC or affiliate engaged in such activities complies with certain safeguards, such as those described in Appendix C. These safeguards include avoiding operating vessels, railcars, pipelines or other transportation or storage facilities used to transport physical commodities; contracting for transportation and storage of physical commodities with appropriate owners and operators of transportation, storage or processing facilities; adopting and implementing procedures to ensure that, when contracting with or selecting appropriate service providers of transportation, storage, or processing services, the FHC will not control or become excessively involved in the

establishment of, or compliance with, the environmental safeguards of such service providers; and other safeguards when appropriate such as those described in Appendix C.

As a result, the risks, including the tail risks, associated with Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, when conducted in compliance with appropriate safeguards when appropriate such as those described in Appendix C, are not fundamentally different from or inherently greater than the risks associated with any number of other permissible banking or other financial activities, including market making and other client intermediation services with respect to financial instruments.

In the course of engaging in traditional banking activities, FHCs face the following risks:

- credit risk, which arises from the potential that a borrower or counterparty will fail to perform on an obligation;

- market risk, which is the risk to an FHC's financial condition resulting from adverse movements in market rates or prices, such as movement in interest rates, foreign-exchange rates, or equity prices;

- liquidity risk, which is the risk that an FHC will be unable to meet its obligations as they become due because of an inability to liquidate assets or to obtain adequate funding, or because it cannot easily unwind or offset specific exposures without significantly lowering market prices because of inadequate market depth or market disruptions;

- legal risk, which arises from the potential that unenforceable contracts, lawsuits, or adverse judgments can disrupt or otherwise negatively affect the operations or condition of a banking organization;[228]

- operational risk, which arises from the potential that inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen catastrophes will result in unexpected losses; and

- reputational risk, which is the risk that negative publicity regarding an institution's business practices, whether true or not, will cause a decline in the customer base, costly litigation, or revenue reductions.

[228] Under the U.S. Basel III risk-based capital rules applicable to advanced approaches bank holding companies, i.e., generally those with $250 billion or more in total assets or with $10 billion or more in on-balance sheet foreign exposures, legal risk is a component of operational risk and is therefore reflected in a large FHC's risk-weighted assets for operational risk. *See* 12 C.F.R. § 271.101(b) ("Operational risk means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events (including legal risk but excluding strategic and reputational risk")).

As explained in the BHC Manual,[229] an FHC's business activities present various combinations and concentrations of the risks described above, depending on the nature and scope of the particular activity.

The credit, market, liquidity, legal, operational and reputational risks of the Commodity Intermediation Activities, including with respect to environmentally sensitive commodities, are similar to the corresponding risks associated with any number of other banking or other financial activities, including market making and other client intermediation services with respect to financial instruments because of the similarities between physical commodities, money and other financial instruments. Unlike real estate, finished goods or other heterogeneous products, physical commodities such as grain, oil, natural gas and have characteristics that are generally similar to those of money, money market instruments and other financial instruments. Money is generally defined as a unit of value, medium of exchange and store of value. Among the characteristics that make money and other money market instruments an efficient unit of account and medium of exchange are their divisibility and fungibility. Among the characteristics that make them a good store of value are transparency, stability and liquidity — the ability to know their market value at all times, the stability of their market values or the ability to readily hedge them, and the ability to buy and sell large quantities without affecting their market value.

Physical commodities such as grain, oil, and natural gas typically share these characteristics. They are divisible and fungible because they can be divided into very small units that are interchangeable with each other. Many of them are transparent, stable and liquid; as a result, markets for commodities are often used by economists as examples of perfectly competitive markets in which the producers and consumers are price takers.[230]

b. Environmentally Sensitive Commodities Handling Activities

Although the potential legal liability associated with Environmentally Sensitive Commodities Handling Activities can be greater than the market value of the commodities or facilities involved, FHCs can avoid or substantially mitigate such potential legal liability to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards, by complying with appropriate safeguards when appropriate to do so such as those described in Appendix C.

6. Analysis of the Issues Raised by the Notice

Section IV.B.1 of this comment letter describes the issues related to the potential risks of physical commodities activities as framed by the Notice. We address each of these issues below, as framed by the Notice, but generally address them without differentiating whether the

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[229] *See, e.g.*, Federal Reserve Bank Holding Company Supervision Manual § 2124.0.2.1 (Jan. 2013).

[230] *See, e.g.*, Robert Hall and Marc Lieberman, MICROECONOMICS: PRINCIPLES AND APPLICATIONS 245-247 (6th ed. 2013).

particular commodities activity is being conducted under the Complementary Powers Authority, the Commodities Grandfathering Authority or the Merchant Banking Authority.

a. Prohibition on Physical Commodities Handling Activities

We believe that the prohibition on Physical Commodities Handling Activities under the Complementary Activities Authority in the Complementary Powers Orders is sufficient to mitigate the potential risks associated with those activities to an acceptable level, provided that the relevant FHC complies with appropriate safeguards against legal liability for such activities, such as those described in Appendix C. We define an acceptable level of risk as a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. These safeguards should protect the owners of any underlying commodities from the sort of indirect liability described in the Notice that could arise from any discharge of environmentally sensitive commodities by the owner or operator of facilities for the extraction, processing, storage, transportation or other handling of such commodities.

The prohibition in the Complementary Powers Orders may actually be broader than necessary to address the tail risks associated with Environmentally Sensitive Commodities Handling Activities because it extends to the storage, transportation or other handling of physical commodities that are not environmentally sensitive, such as grain, industrial metals and other similar commodities. We do not believe that the tail risks associated with the discharge of such commodities would harm the environment or otherwise justify the prohibition. The legal risks associated with a discharge of such commodities are not materially different from, or inherently greater than, the legal risks associated with storing, transporting or otherwise handling gold, silver or other precious metals commodities or financial instruments.

We do not believe that engaging in Environmentally Sensitive Commodities Handling Activities as a Grandfathered Commodities Activity or making merchant banking investments in portfolio companies engaged in such activities would amount to an unsafe or unsound practice or otherwise be justified, if conducted or made subject to appropriate safeguards when appropriate, such as those described in Appendix C.

b. Safety Policies and Procedures

We believe that the safety policies and procedures required by the Complementary Powers Orders are sufficient to mitigate the storage and transportation risks of environmentally sensitive commodities, provided the relevant FHC complies with other appropriate safeguards against legal liability for such activities, such as those described in Appendix C. It is possible that what the Notice calls the "current industry safety policies and procedures" may not be adequate, but we believe that the safety policies and procedures required by the Complementary Powers Orders, combined with appropriate other safeguards, such as those described in Appendix C, would be sufficient.

c. Capital and Insurance

The amount of capital and insurance that FHCs hold for their Complementary Commodities Activities should be adequate to "protect [them] from the degree and types of costs associated with all commodity-related environmental disasters,"[231] provided they conduct their activities in compliance with appropriate safeguards such as those described in Appendix C. As described in the Joint Memorandum of Law, if FHCs conduct their Complementary Commodities Activities in compliance with such safeguards, they should not be subject to liability for such environmental disasters.

d. Piercing the Corporate Veil

The Associations believe that FHCs can avoid or mitigate the risk that the corporate veil of any subsidiary or portfolio company engaged in Complementary Commodities Activities will be pierced, resulting in the FHC or its IDI or non-IDI subsidiaries having indirect liability for the commodities activities of such commodities subsidiaries or portfolio companies, by following appropriate procedures for avoiding such veil-piercing, including the procedures described in Appendix C. The same conclusion would apply in the context of Grandfathered Commodities Activities and Merchant Banking Commodities Investments. In fact, FHCs cannot make Merchant Banking Commodities Investments unless they satisfy conditions prescribed by the Federal Reserve's regulations intended to address, among other things, the risk of veil-piercing, including the requirement for the portfolio company in which the FHC invests (i) to maintain "policies, books and records, accounts and other indicia of corporate, partnership or limited liability organization and operation that are separate from the financial holding company and limit the legal liability of the financial holding company for obligations of the portfolio company" and (ii) to maintain separate management from that of the financial holding company.[232]

e. No Material Risk of Market Contagion

The Notice observed that the "financial crisis [of 2008] demonstrated the effects of market contagion and highlighted the danger of underappreciated tail risks associated with

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[231] 79 Fed. Reg. at 3332-3333.

[232] During the debates leading up to the passage of the GLB Act, Congress was well aware of the veil-piercing risk, but evidently concluded that it was well understood and could be controlled. In its report on a previous version of the bill and its provisions allowing BHCs to conduct a broad range of financial activities through operating subsidiaries of national banks, the House Committee on Banking and Financial Services addressed the concern about national banks becoming liable for debts of their "operating subsidiaries" beyond their own investments and loans. The Committee Report noted that the Office of the Comptroller of the Currency believed this concern was addressed by (i) the general rule of corporate law that a shareholder is not liable for debts of a company in which it owns stock, (ii) the fact that piercing the corporate veil is a rare exception that "generally applies only where there is some combination of fraud and a failure to follow corporate formalities, such that creditors thought they were dealing with the shareholder (*i.e.*, the parent bank)," and (iii) the ability of supervision and examination to provide protection against inadequate capital and disregard of separate corporate existence. H.R. Rep. No. 106-74 to Accompany H.R. 10, Financial Services Act of 1999, at 101 (Mar. 23, 1999).

certain activities."[233] Congress responded to the financial crisis by enacting the Dodd-Frank Act "to help address risks to financial stability including by requiring the Board to take steps to develop and impose prudential supervisory standards that would mitigate risks posed by large financial firms to the financial system."[234] The Notice stated that "[t]he Board has taken a number of steps to address these risks," such as "developing enhanced standards under section 165 of the Dodd-Frank Act 'to prevent or mitigate risks to the financial stability of the Unites States,'"[235] and adopting "a revised capital framework . . . that increases the overall quantity and quality of capital in the banking system.[236]

Observing that all but one of the FHCs currently permitted to engage in physical commodities activities in the United States have been designated as G-SIBs,[237] that "[f]inancial firms, and in particular holding companies of IDIs, are particularly vulnerable to reputational damage to their banking operations,"[238] and that "[t]he involvement of FHCs in physical commodities activities has substantially increased since 2007, primarily as a result of mergers and acquisitions and securities firms becoming BHCs,"[239] the Notice expressed concern that "a tail risk event affecting a G-SIB as a result of physical commodities activities could lead to market contagion."[240] In particular, the Notice expressed concern that the "ownership of physical commodities that are part of a catastrophic event could suddenly and severely undermine public confidence in the FHC or its [IDI] and undermine their access to funding markets, until the extent of the liability of the FHC can be assessed by the market."[241]

The Notice also expressed concern that "several recent events suggest that, even without direct ownership or operational control of an entity that has suffered a catastrophe, the public confidence of a holding company that was engaged in a physical commodity activity with a third party could suddenly and severely be undermined, as could the confidence in the company's subsidiary [IDI] or their access to the funding markets, until the extent of the liability of the holding company could be assessed by the markets."[242] While conceding that "the likelihood of a catastrophic event is small in the short term," the Notice expressed concern that "catastrophes involving physical commodities continue to occur, and the resultant damages are very difficult to measure, even after the event has occurred, and may be extremely large."[243] Similarly, while

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[233] *Id*. at 3331.

[234] *Id*. at 3332.

[235] *Id*.

[236] *Id.*

[237] *Id*. *See supra* note 13.

[238] *Id*. at 3333.

[239] *Id*. at 3332.

[240] *Id*.

[241] *Id*.

[242] *Id*. at 3333.

[243] *Id*.

conceding that FHCs have "not been involved in such an event to date," the Notice argued that the absence of such an event "does not reduce the probability that such an event may occur or that the event could have a material adverse impact on the financial condition of [an] FHC."[244] According to the Notice, "the absence of such an experience may hinder FHCs' ability to assess the efficacy of their safeguards."[245] The Board therefore requested public comment on "what additional actions are necessary to mitigate [any systemic] risk posed by those activities," consistent with the Board's actions under the Dodd-Frank Act.[246]

The Associations believe that it is extremely unlikely that Commodity Intermediation Activities or Environmentally Sensitive Commodities Handling Activities would result in the sort of market contagion that destabilized the U.S. financial system during the financial crisis of 2008 for two very different reasons. Commodity Intermediation Activities are unlikely to do so because an unexpected collapse in the market value of commodities is unlikely to result in the sort of common shock that would result in a general loss of public confidence in the solvency of FHCs throughout the U.S. financial system the way the unexpected collapse in real estate prices and the value of investments in real estate-related securitization vehicles did during the financial crisis of 2008. As noted above, FHCs generally do not maintain large inventories in physical commodities. In addition, the exposure of FHCs to an unexpected drop in the market value of any inventory they may accumulate is limited because of regulatory limits on the size of such inventories as a percentage of consolidated Tier 1 capital or assets.[247] Reputational risk does not affect this conclusion because the exposures are not great enough to threaten the stability of the U.S. financial system even when considered in light of the interest of G-SIBs in preserving their reputations.

Environmentally Sensitive Commodities Handling Activities are also unlikely to result in market contagion, but for another reason: accidents or discharges involving such commodities are unlikely to be correlated with each other. In other words, even if a commodities affiliate or portfolio company of one FHC suffers a catastrophic loss because, for example, it owns and operates oil tankers that suffer an accident that results in a discharge of oil, there is no reason to believe that the commodities affiliates or portfolio companies of other FHCs will suffer similar accidents and losses that are correlated with the first company's accident and losses. As a result, accidents and discharges arising from Environmentally Sensitive Commodities Handling Activities are unlikely to result in the sort of common shock that could result in a general loss of public confidence in the solvency of FHCs throughout the U.S. financial system the way the collapse in real estate prices and the value of investments in real estate-related securitization vehicles did during the financial crisis of 2008. The dominos theory of contagion, in which a large idiosyncratic loss and default by one G-SIB somehow results in a general loss of confidence in the solvency of otherwise well-capitalized and well-liquefied financial institutions

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[244] *Id.*

[245] *Id*.

[246] *Id.* at 3332.

[247] See *supra* note 28.

throughout the U.S. financial system, has been criticized as unpersuasive.[248] Reputational risk does not affect this conclusion because the idiosyncratic, uncorrelated losses suffered by one FHC do not affect the reputations of the rest of the FHCs throughout the U.S. financial system in the absence of a common shock to the asset values of financial institutions throughout the system.

f. Conflicts of Interest Not Adequately Addressed by Existing Law and Other Potential Adverse Effects

The Associations do not believe that the Complementary Commodities Activities involve any conflicts of interest that are not adequately addressed by existing law, or any other potential adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interest, unsound banking practices, or risk to the stability of the United States, that outweigh their public benefits. Nor do we believe that the Grandfathered Commodities Activities or Merchant Banking Commodities Investments involve such conflicts of interest or have any other potential adverse effects that are not adequately addressed by existing law.

Many of the potential conflicts of interest that may apply to physical commodities activities are no different from conflicts of interest that apply to permissible financial activities (e.g., anti-competitive activities and fraud with respect to the physical exchange of currencies or the purchase and sale of cash bonds). Specific potential conflicts of interest which may arise in the context of FHC participation in the physical commodities markets include conflicts of interest which could arise as a result of trading physical commodities and related derivatives by FHCs and potential price manipulation of such products. However, as detailed below, we believe that all of these potential conflicts of interest and the associated risks are appropriately accounted for through existing laws, regulatory frameworks and industry and entity-level processes and procedures; accordingly, further regulation by the Board is not warranted.

Participation by any participant in the physical commodities markets, including by FHCs, is subject to significant legal requirements, regulation, and oversight with respect to anti-competitive activity, material conflicts of interest, fraud, and other conduct, such as price and market manipulation. These protections have been extended by the Dodd-Frank Act, which subjects commodity derivative contracts (*e.g.*, swaps and futures) as well as the sale of commodities in interstate commerce (*e.g.*, forwards and spot sales) to a similar legal framework as previously existed in other, related markets. We believe that to the extent the activities of FHCs in these markets may pose a risk of anti-competitive behavior, fraud, or manipulative behavior, the existing laws and regulatory authorities are sufficiently well designed to address such actions. Notably, while entities other than FHCs engaged in activities the physical

[248] *See, e.g.*, George F. Kaufman & Kenneth E. Scott, *What is Systemic Risk, and Do Bank Regulators Retard or Contribute to it?*, 7 THE INDEPENDENT REVIEW 371 (2003); Mathieu Bédard, *Are Dominos a Good Metaphor for Systemic Risk in Banking?*, 17 INTERNATIONAL JOURNAL OF BUSINESS 352 (2012). For example, Anna Jacobsen Schwartz, who co-authored with Milton Friedman, A MONETARY HISTORY OF THE UNITED STATES, 1867-1960 (Princeton University Press, 1963) – the classic book on the Great Depression and the market contagion throughout the U.S. financial system that caused it – stated that she does not believe that idiosyncratic losses at one financial institution "will cause a cascade that will take down otherwise healthy companies in its wake." Brian M. Carney, *Bernanke is Fighting the Last War*, WALL STREET JOURNAL (Oct. 18, 2008).

commodities markets are subject to many of the same regulatory standards and face many of the same conflicts of interest issues as FHCs, FHCs may encounter less conflict risk since they may be significantly less vertically integrated when compared to their non-FHC counterparts. Moreover, FHCs, which are required to conduct their activities in a safe and sound manner, are subject to specific risk management requirements and expectations and significant oversight. As a result, FHCs, may, in fact, be better equipped to develop processes and procedures to comply with applicable law to protect against any such activity within their organizations than other market participants that are not subject to the safety and soundness standard. Furthermore, the Board has authority to enforce compliance by FHCs with applicable law. Because of the comprehensive legal and regulatory framework already in place, which is enforceable by the Board, further regulation by the Board in this area should be unnecessary, and likely would be duplicative and potentially conflict with existing law and regulation.

Numerous federal authorities already have broad authority to monitor potential market and price manipulation, anti-competitive behavior, fraud and other conduct as it applies to all participants in the physical commodities markets, including FHCs. These authorities are able to monitor market participants' conduct as well as take action to impose and enforce civil and criminal penalties if prohibited activity occurs. For example, market manipulation is strictly prohibited under the regulations of the CFTC, the Federal Energy Regulatory Commission ("**FERC**") (with respect to natural gas and electricity markets), the Federal Trade Commission ("**FTC**") (with respect to the petroleum markets and pipelines) and related laws (including the Commodity Exchange Act, as amended ("**CEA**"), the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007). Fraud claims may be brought by governmental entities under general federal anti-fraud statutes, state law or common law, and CFTC, FERC and FTC regulations also specifically prohibit fraud in connection with many types of commodity transactions. As a result of amendments to the CEA under the Dodd-Frank Act, the CFTC has adopted rules which follow the FERC and FTC standards and apply securities law fraud and manipulation standards in the futures and derivatives markets. These rules establish additional forms of potential liability for market participants trading over-the-counter derivatives on underlyers including physical commodities. CFTC authority in this area is analogous to securities laws and includes the authority to investigate and prosecute any trading on the basis of material nonpublic information obtained through fraud or deception, or in breach of a pre-existing duty.[249] Further, the multi-agency regulations implementing the Volcker Rule require that principal trading of financial instruments with the intent to resell in order to profit from short-term price movements be generally limited to trading for market making, risk mitigating hedging and underwriting purposes, which significantly reduces potential conflict risk.[250] Moreover, as discussed below, FHCs may also develop information barriers consistent with other applicable laws to mitigate these conflicts of interest. In addition, the Department of Justice has the authority to review and prosecute criminal activity under the CEA (and the CFTC's regulations thereunder) and federal anti-trust laws.

[249] *See* CFTC rules prohibiting manipulation, 17 C.F.R § 180.1; 76 Fed. Reg. 41398, 41403 (July 14. 2011).

[250] *See* 79 Fed. Reg. 5808 (Jan. 31, 2014); 79 Fed. Reg. 5536 (Jan. 31, 2014).

Beyond this legal and regulatory framework, many governmental and non-governmental authorities monitor the behavior of participants in the physical commodities markets through oversight measures which are specifically tailored towards the unique risks and concerns of specific physical commodities industries. Commodity exchanges like the Chicago Mercantile Exchange (and its affiliated exchanges) maintain strict guidelines and eligibility criteria regarding warehousing and storage to support the successful physical delivery of physical commodities. These requirements include a rigorous approval process as well as ongoing monitoring and reporting of the warehouse and storage facilities. FERC regulations have long mandated the functional separation of electric utilities' transmission and power marketing functions and prescribed related codes of conduct.

In addition to the extensive regulatory oversight related to the commodities markets, FHCs also have robust internal risk management policies and procedures designed to ensure compliance with applicable laws and, where applicable, FHCs' fiduciary duties, while reducing or mitigating risk to the FHC and its subsidiary depository institutions. Such risk management policies take into account a variety of risks, including legal and enforcement risks, to ensure safe and sound business operations and to comply fully with applicable bank regulatory guidelines.[251] Moreover, FHCs have experience developing risk management frameworks and managing risk across a variety of activities and markets. This experience is equally applicable in the context of FHCs' participation in the physical commodities markets. This experience includes, where appropriate, the development of information barriers consistent with securities laws and investment management laws to ensure that proprietary activity does not benefit unfairly from information learned via customer-facing intermediary activities that FHCs perform. These efforts, coupled with the extensive regulatory oversight, are sufficiently robust to safeguard against any potential non-compliance risk; as such, the creation of generalized blanket information barriers through further regulation in this area is not necessary.[252]

Given the comprehensive legal framework already in place to address the risk of anti-competitive behavior and FHCs' experience in developing compliance with such requirements, we do not believe that additional regulation in this area is necessary. Because of the framework

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[251] Bank regulatory guidance in this area is extensive and indicates that FHCs' risk management policies should account for a broad array of risks. *See*, *e.g.*, Federal Reserve Board, *Supervisory Letter SR 08-8: Compliance Risk Management Programs and Oversight at Large Banking Organizations with Complex Compliance Profiles* (Oct. 16, 2008) (outlining expectations with regard to firmwide compliance risk management programs and program oversight generally and stating that robust compliance monitoring and testing are expected); Federal Reserve Board, *Supervisory Letter SR 00-9: Supervisory Guidance on Equity Investment and Merchant Banking Activities* (June 22, 2000) (identifying sound management practices for equity investments which involve oversight, appropriate policies, limits, procedures and management systems, and adequate internal controls).

[252] Where the FHC's commodities trading business is engaged in making merchant banking investments in companies engaged in Physical Commodities Handling Activities, the above conflicts-related risks may be more acute because of real or perceived risks of improper sharing of non-public information of the portfolio company with the commodities trading business, or the potential to encroach on the prohibition against day-to-day management of the portfolio company. To address heightened perceptions of conflicts, depending on the circumstances the FHC may also choose any number of conflicts mitigation controls, such as creating information walls or establishing different levels of business management separation between the investment in companies engaged in Physical Commodities Handling Activities and the traders conducting FHC's commodities trading activities.

already in place, new regulation would be likely to duplicate or conflict with existing requirements, which would in turn serve to complicate compliance efforts.

g. Additional Prudential Requirements for Grandfathered Commodities Activities

The Associations do not believe that it would be justified for the Board to impose additional prudential requirements on the Grandfathered Commodities Activities, in the absence of sufficient evidence that a particular activity is being conducted in a manner that amounts to an unsafe or unsound practice. Provided that such activities are conducted in compliance with appropriate safeguards, such as those described in Appendix C, we do not believe that they would amount to an unsafe or unsound practice.

h. Sufficiency of Corporate Separateness Requirements Applicable to Merchant Banking Commodities Investments

The Associations believe that when made in compliance with the conditions in Section 4(k)(4)(H) and Subpart J of the Board's Regulation Y and with any other appropriate safeguards such as those described in Appendix C, the risk of a portfolio company's corporate veil being pierced, and its FHC parent or IDI or non-IDI affiliates being indirectly liable for its commodities activities, can be avoided or mitigated to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.[253]

The Associations do not believe that it would be justified for the Board to take any of the actions suggested in the Notice to strengthen existing conditions. We address each suggested action below.

(1) Reduced Maximum Holding Periods

The Notice indicates that, among the actions being considered to address the potential risks associated with Merchant Banking Commodities Investments, the Board is considering reduced maximum holding periods.[254] As described above in Section III.C, the Board's Regulation Y imposes a maximum holding period on merchant banking investments equal to 10

[253] The Federal Reserve's complementary orders authorizing physical commodities trading prohibit FHCs from using complementary authority to "(i) own, operate, or invest in facilities for the extraction, transportation, storage, or distribution of commodities; or (ii) process, refine, or otherwise alter commodities." *See, e.g.*, 2003 Citi Order, *supra* note 81, at 510. This prohibition, however, does not preclude business relationships between FHCs and companies engaged in Physical Commodities Handling Activities under other authorities under the BHC Act — in addition to being ordinary course commodities trading counterparties, FHCs often provide financial products to these commodities companies, including cash management, custody, clearing, financing (including via loan, repo, and tax equity structures), and other types of ordinary course banking and financial services. FHCs have also used the Merchant Banking Authority to invest in companies engaged in Physical Commodities Handling Activities.

[254] 79 Fed. Reg. at 3335.

years, with merchant banking investments made through qualifying private equity funds being subject to a 15-year holding period.[255]

Reducing the maximum holding period for Merchant Banking Commodities Investments would not reduce the tail risks associated with such investments but could increase their other risks. A catastrophic event could occur at any time; an investor is not better insulated from this risk holding a 5-year investment than it is holding a 10-year investment. In a stark illustration of this principle from outside the merchant banking context, real estate investor Larry Silverstein entered into his lease of the World Trade Center on July 24, 2001, less than two months before the 9/11 terrorist attacks.[256]

A reduced maximum holding period would, however, shrink an FHC's window of opportunity to realize gains and to recover from losses caused by the ordinary cycle of fluctuations in market, credit and concentration risks. This negative effect of reducing the maximum holding period could be particularly acute in situations where FHCs invest in young companies with promising business models — in other words, where FHCs engage in socially productive investing in start-up businesses. In these cases, a substantial amount of time may be required for the investment to reach its full potential, and a holding period that is too short could raise the risk of an FHC being forced to exit at a loss and discourage FHCs from making these kinds of investments. This chilling effect could lead to the diminution or elimination of one of the major public benefits offered by merchant banking investments — providing capital that allows start-ups and new sectors to grow. In addition, limiting the Merchant Banking Authority will also limit the ability of many funds sponsored by the asset management arms of FHCs to undertake their investment programs. For example, a five-year holding period could make it impossible to run certain kinds of funds that make longer-dated investments.

(2) Additional Restrictions on Routine Management

The Notice also states that the Board is considering additional restrictions on the routine management of merchant banking investments.[257]

The current restrictions, as discussed above in Section III.C, are robust and sufficient to address veil-piercing risk. Thus, additional substantive restrictions on routine management activities are not necessary. In addition to the substantive requirements set out in the statute and the regulations, the policies, procedures, records and systems to maintain corporate separateness required by Regulation Y and discussed in the Board's Bank Holding Company Supervision Manual have already been put in place by most FHCs. Amending the merchant banking regulations to require specific measures related to policies and procedures that the Board has found through its examinations to be useful may be an appropriate way for the Board to ensure

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[255] 12 C.F.R. § 225.172.

[256] *See* The Port Authority of New York & New Jersey, Press Release, "Governor Pataki, Acting Governor Difancesco Laud Historic Port Authority Agreement to Privatize World Trade Center" (July 24, 2001).

[257] 79 Fed. Reg. at 3335.

more fully that FHCs are taking appropriate precautions with respect to the veil-piercing risks identified in the Notice.

The Associations acknowledge the importance of policies and procedures in maintaining corporate separateness and avoiding veil-piercing by limiting routine management activities. It may be appropriate for the Board to require each FHC to establish its own practices, similar to those described in Appendix C. Many of those practices relate to avoiding routine management of portfolio companies, including, among others, the maintenance of corporate formalities, risk management program safeguards, and the limitation of engagement in day-to-day decision-making regarding facility operations or regulatory compliance.[258] The Board could adopt regulations that follow the approach the Board has included in its examination manual, as described above, requiring each FHC to tailor its practices to its own specific investments. For example, an FHC that invests in foreign portfolio companies should, of course, understand the corporate separateness law applicable in the jurisdictions in which it makes such investments.[259]

(3) Additional Capital Requirements

The Notice states that the Board is considering additional capital requirements on some or all merchant banking investments as another way to address the potential risks associated with Merchant Banking Commodities Investments.[260]

The U.S. Basel III final rule — which became effective for advanced approaches banking organizations on January 1, 2014[261] and will become effective for most other banking organizations on January 1, 2015 — has amended the treatment of equity investments in non-financial companies. These investments are now subject to full inclusion in risk-weighted assets at risk weights of 300% (for publicly traded) and 400% (for non-publicly traded) instead of a partial deduction from Tier 1 capital and exclusion from risk-weighted assets.[262] In addition, advanced approaches FHCs must calculate risk-weighted assets for operational risk, including the risk of legal liability.[263] Operational risk covers seven categories of operational loss events,

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[258] *See* Joint Memorandum of Law, Appendix B.

[259] *See* Appendix C at ¶8.

[260] *Id*.

[261] Advanced approaches banking organizations are those with $250 billion or more in total consolidated assets or $10 billion or more in on-balance sheet foreign exposures. For eight of the advanced approaches banking organizations, authorization to exit their parallel run has been obtained and, with effect from Apr.1, 2014, they will calculate their risk-weighted assets under both the Basel III advanced approaches and (until Jan. 1, 2015) the generally applicable Basel I risk-based capital rules and (from Jan. 1, 2015) the Basel III standardized approach.

[262] This assumes a merchant banking investment is not held as a trading asset subject to the market risk rules. If such an investment were subject to the market risk rules, an advanced approaches FHC would be required to calculate an advanced measure for market risk that would equal the sum of its Value-at-Risk ("VaR")-based capital requirement, stressed VaR-based capital requirement, specific risk add-ons, incremental risk capital requirement, comprehensive risk capital requirement, and capital requirement for *de minimis* exposures. *See* 12 C.F.R. §217.204(a)(2).

[263] *See* 12 C.F.R. § 217.101(b) (definition of "operational risk"); 12 C.F.R. § 217.161-162.

including "[d]amage to physical assets, which means the operational loss event type category that comprises operational losses resulting from the loss of or damage to physical assets from natural disasters or other events."[264] In light of the general strengthening of both risk-based capital and leverage ratio requirements, as well as the requirement that banking organizations' capital be subject to company-run and supervisory stress tests, the Associations respectfully submit that the newly adopted Basel III requirements should be given a chance to be fully phased in and implemented, and their effect felt, before consideration is given to imposing any new and additional capital charges for equity exposures.

Moreover, there does not appear to be any empirical evidence that FHCs that have made merchant banking investments in non-financial companies engaged in commodities-related activities have suffered any material losses in the value of their investments, much less any catastrophic losses from any tail risk related to environmental liability. Under the Basel II Framework and under the U.S. Basel III final rule for advanced approaches banking organizations, respectively, banking organizations must calculate risk-weighted assets for operational risk. The U.S. advanced approaches banking organizations that have completed and are still in the midst of their parallel runs have had to calculate operational risk charges based on internal and external loss event data for years now. Yet the publicly available data on operational loss events since 2006 do not support the concern expressed in the Notice with respect to catastrophic losses from tail risk.

The most recent ORX Report on Operational Risk Loss Data, dated 2012,[265] shows that, in the six-year period from 2006 through 2011, there were a total of 2,313 operational loss events under the ORX level 1 category of "Disasters & Public Safety" and that ORX members reporting operational loss events under this category incurred aggregate losses of EUR 337 million. Based on this data, the average loss per operational loss event in this category was EUR 14,570. Since this category of operational loss events includes slip and fall accidents by members of the public, natural disasters and acts of terrorism in addition to environmental accidents, operational loss events arising from environmental liability are likely to be a fraction of the reported loss events. Even if, in the worst case, the full amount of EUR 337 million over the six-year period were attributed to commodities-related or environmental loss events, this total would represent a small fraction (*i.e.*, 0.4%) of the approximately EUR 80.5 billion in total losses incurred from operational loss events under all seven level 1 categories.[266]

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[264] *See* 12 C.F.R. § 217.101(b) (definition of "operational loss event").

[265] The 2012 ORX Report on Operational Risk Loss Data is available at http://www.orx.org/Pages/Contact.aspx?Type=ORR.

[266] *See* Appendix F for a description of the ORX Report on Operational Risk Loss Data.

(4) Enhanced Reporting

The Notice indicated that the Board is considering implementing enhanced reporting requirements or public disclosures regarding merchant banking investments.[267] The Associations do not believe that any enhanced reporting is warranted at this time.

Existing requirements include reporting on forms FR Y-6, FR Y-10, FR Y-12 and FR Y-12A. FR Y-10 requires the disclosure of the identity of the direct equity holder, the amount of the investment and percentage of ownership of voting securities, total equity and assets for merchant banking investments of $200 million or 5% of Tier 1 capital, whichever is less. FR Y-6 requires an organizational chart that would include certain merchant banking investments if they are reportable on FR Y-10, including ownership percentage. FR Y-12 is a quarterly report relating to equity investments in nonfinancial companies. For merchant banking investments, it requires FHCs to report acquisition cost, net unrealized holding gains not recognized as income and carrying value in the aggregate for all merchant banking investments.

FR Y-12A applies to merchant banking investments within two years of the end of the allowed holding period and requires:

- name and location of portfolio company
- primary activity of portfolio company (NAICS activity code)
- type of interest held (*e.g.*, common equity, general partnership interest)
- percentage of voting and non-voting equity
- acquisition cost
- carrying value
- plan and schedule for disposition.

To the extent that the Board has found the information reported on FR Y-12A with respect to merchant banking investments useful, the expanded use of FR Y-12A would be a reasonable method of obtaining more information and increasing the Board's capacity to supervise merchant banking investments. For example, the filing of Form FR Y-12A could be required for the same investments that must be reported on Form FR Y-10 (*i.e.*, for merchant banking investments of $200 million or more than 5% of Tier 1 capital, whichever is less). This additional reporting would provide the Board with additional information about these merchant banking investments, including the type of interest held by the FHC, and any plan or schedule for disposition that the FHC may be considering. The trigger for this reporting could be adjusted to be higher or lower, but would be an effective means of gathering information on significant

[267] 79 Fed. Reg. at 3335.

merchant banking investments. Alternatively, the Board could require that FHCs file form FR Y-12A for certain types of merchant banking investments that it believes generate the highest amount of risk, or for merchant banking investments in companies with activities related to physical commodities.

V. Conclusion

The Associations believe that the significant public benefits associated with physical commodities activities greatly outweigh their potential risks, when these activities are conducted in accordance with appropriate safeguards, when appropriate, such as those described in Appendix C. In particular, we do not believe that the risks associated with Commodity Intermediation Activities are fundamentally different from or inherently greater than the corresponding risks associated with any number of permissible banking or other financial activities, including market making in financial instruments. Although the tail risks associated with Environmentally Sensitive Commodities Handling Activities can be greater than the market value of the commodities or facilities involved, we believe that FHCs that own any subsidiaries or portfolio companies engaged in such activities can avoid or substantially mitigate the tail risks of Environmentally Sensitive Commodities Handling Activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards, by complying with appropriate safeguards when appropriate, such as those described in Appendix C.

That being said, the Associations believe that it is essential that FHCs engaged in physical commodities activities identify and comply rigorously with appropriate safeguards designed to mitigate any tail risks associated with Environmentally Sensitive Commodities Handling Activities. To the extent some FHCs are not doing so when appropriate, the Board should require them to do so as part of the supervisory process. The Board should also encourage all FHCs to evaluate and monitor the potential risks of their physical commodities activities and seek to improve their risk management of such activities in each case on a regular basis. The Associations do not believe, however, that it is necessary for the Board to issue any new regulations to reduce the potential risks, including any of the amendments to the merchant banking rules in Subpart J of Regulation Y, as suggested by the Notice.

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We thank the Board for its consideration of our comments. If you have any questions, please do not hesitate to contact the Associations.

Sincerely,

Kenneth E. Bentsen, Jr.
President and CEO
Securities Industry and Financial Markets Association

Wayne A. Abernathy
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American Bankers Association

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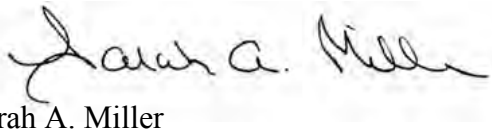

Sarah A. Miller
Chief Executive Officer
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APPENDIX A

RESPONSES TO SELECTED QUESTIONS

I. Complementary Commodities Activities

A. Potential Inadequacies of Current Safeguards and Safety and Soundness Considerations

Question 1. *What criteria should the Board look to when determining whether a physical commodity poses an undue risk to the safety and soundness of a FHC?*

We believe that the key message of the Joint Memorandum of Law attached as Appendix B and our comment letter is that the Board should look to both the nature of the physical commodity involved and the nature of the FHC's activity with respect to that commodity. As more fully explained in our comment letter and the Joint Memorandum of Law attached as Appendix B, if the physical commodity is not environmentally sensitive, we do not believe that the potential risks associated with either Commodity Intermediation Activities or Physical Commodities Handling Activities will be fundamentally different from, or inherently greater than, the risks associated with any number of permissible banking or other financial activities, including market making or other client intermediation services with respect to financial instruments or the transportation, storage or other handling of precious metals or other physical commodities. If the physical commodity is environmentally sensitive, then the potential risks turn on whether the relevant activities are Commodity Intermediation Activities (which include the Complementary Commodities Activities) or Environmentally Sensitive Commodities Handling Activities. If the former, we do not believe that the potential risks are fundamentally different from, or inherently greater than, the risks associated with any number of permissible financial activities, including market making in financial instruments, and, in any event, we believe that appropriate safeguards, such as the safeguards described in Appendix C, can be implemented by the FHC when appropriate. If the latter, we believe that the FHC should and can comply with appropriate safeguards when appropriate, such as the safeguards described in Appendix C, to avoid or substantially mitigate the tail risks of those activities to a level consistent with the FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.

Question 2. *What additional conditions, if any, should the Board impose on Complementary Commodities Activities? For example, are the risks of these activities adequately addressed by imposing one or more of the following requirements: (i) enhanced capital requirements for Complementary Commodities Activities, (ii) increased insurance requirements for Complementary Commodities Activities, and (iii) reductions in the amount of assets and revenue attributable to Complementary Commodities Activities, including absolute dollar limits and caps based on a percentage of the FHC's regulatory capital or revenue?*

Appendix C to our comment letter includes a list of practices which, if implemented when appropriate, should be effective to avoid or substantially mitigate the risk of potential legal

liabilities arising out of physical commodities activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. Beyond the practices identified in Appendix C, we do not believe that any additional conditions on the Complementary Commodities Activities, which are a subset of Commodity Intermediation Activities, are warranted. As noted in our comment letter, and as supported by the Joint Memorandum of Law attached as Appendix B, we do not believe that the potential risks of Commodity Intermediation Activities, including Complementary Commodities Activities, are fundamentally different from or inherently greater than the risks associated with any number of permissible financial activities, including market making in financial instruments.

> ***Question 3.*** *What additional conditions on Complementary Commodities Activities should the Board impose to provide meaningful protections against the legal, reputational and environmental risks associated with physical commodities and how effective would such conditions be?*

Appendix C to our comment letter includes a list of practices which, if implemented when appropriate, should be effective to avoid or substantially mitigate the risk of potential legal liabilities arising out of physical commodities activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. Beyond the practices identified in Appendix C, we do not believe that any additional conditions on the Complementary Commodities Activities, which are a subset of Commodity Intermediation Activities, are warranted. As noted throughout our comment letter, and as supported by the Joint Memorandum of Law attached as Appendix B, we do not believe that the legal, reputation or environmental risks associated with Commodity Intermediation Activities, including Complementary Commodities Activities, are fundamentally different from or inherently greater than the risks associated with any number of permissible financial activities, including market making in financial instruments.

> ***Question 4.*** *To what extent does the commitment that a FHC will only hold physical commodities for which a futures contract has been approved by the CFTC or for which the Board has specifically authorized the FHC to hold adequately ensure that physical commodities positions of FHCs are sufficiently liquid? What modifications to this commitment, including additional conditions, should the Board consider to ensure that a FHC maintains adequate liquidity in its commodity positions?*

We believe that these commitments have been adequate to ensure that the commodities included within the Complementary Commodities Activities have been sufficient to justify their inclusion without adversely affecting the safety or soundness of the relevant FHC or its IDI subsidiaries or the stability of the U.S. financial system. We do not believe that any modifications to these commitments are warranted in the absence of specific evidence of any material adverse effects.

> ***Question 5.*** *What additional commitments or restrictions are necessary to ensure FHCs engaging in Complementary Commodities Activities do not develop unsafe or unsound concentrations in physical commodities?*

We believe that the volume limits applicable to Complementary Commodities Activities (*e.g.*, 5% of Tier 1 capital) have been effective in ensuring that FHCs engaging in Complementary Commodities Activities have not had unsafe or unsound concentrations in physical commodities. In the absence of any specific evidence that this limit has become ineffective, we do not believe that any further commitments or restrictions are warranted.

> ***Question 6.*** *Should the type and scope of limitations on Complementary Commodities Activities differ based on whether the underlying physical commodity may be associated with catastrophic risks? If so, how should limitations differ, and what specific limitations could reduce liability from potential catastrophic events?*

Appendix C to our comment letter includes a list of practices which, if implemented when appropriate, should be effective to avoid or substantially mitigate the risk of potential legal liabilities arising out of physical commodities activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. Beyond the practices identified in Appendix C, we do not believe that the type and scope of limitations on Complementary Commodities Activities should differ based on whether the underlying physical commodity is environmentally sensitive or otherwise associated with catastrophic environmental risks. As more fully discussed in our answer to Question 1 above, we believe that one of the key conclusions of the Joint Memorandum of Law attached as Appendix B is that if the activities are limited to the Complementary Commodities Activities, including with respect to environmentally sensitive commodities, the potential risks of the activities are not fundamentally different from, or inherently greater than, the risks associated with any number of permissible financial activities, including market making with respect to financial instruments or the transportation, storage or other handling of precious metals or other physical commodities, and, in any event, we believe that appropriate safeguards, such as the safeguards described in Appendix C, can be implemented by the FHC when appropriate. Only if the physical commodity is environmentally sensitive, ***and*** the activities involved are Environmentally Sensitive Commodities Handling Activities, could the tail risks be greater, in which case the FHC should and can avoid or substantially mitigate those risks by complying with appropriate safeguards, when appropriate, including those described in Appendix C.

> ***Question 7.*** *Does the commitment not to own, operate or invest in facilities for the extraction, transportation, storage, or distribution of commodities adequately insulate a FHC from risks associated with such facilities, including financial risk, storage risk, transportation risk, reputation risk, and legal and environmental risks? If not, what restrictions should the Board impose to ensure that such extraction, transportation, storage or distribution facilities do not pose safety and soundness risks?*

As more fully explained in our comment letter, and as supported by the Joint Memorandum attached as Appendix C, we believe that the commitment not to own, operate or invest in Physical Commodities Handling Facilities as a Complementary Commodities Activity should adequately insulate an FHC from the tail risks associated with those activities. Based on the Joint Memorandum of Law, moreover, we believe that the commitment would be just as effective if it were limited to Environmentally Sensitive Commodities Handling Activities and if it recognized that there are other ways to avoid or substantially mitigate the tail risks associated

with those activities such as complying with appropriate safeguards, including corporate separateness safeguards, when appropriate, including those described in Appendix C.

> ***Question 8.*** *Do Complementary Commodities Activities pose risks or raise concerns other than those described in this ANPR, and if so, how should those risks or concerns be addressed?*

We do not believe that Complementary Commodities Activities pose material risks or raise material concerns that have not been described in the ANPR. Moreover, for the reasons explained in our comment letter and in the answers to the questions above, we believe that some of the risks and concerns raised in the ANPR do not have a sound basis or do not warrant any change in policies.

> ***Question 9.*** *What negative effects, if any, would a FHC's subsidiary depository institution experience if the parent FHC was not able to engage in Complementary Commodities Activities?*

In the event that the parent FHC was not able to engage in the Complementary Commodities Activities, we believe that its subsidiary depository institution would experience several negative effects. First, the FHC's inability to engage in physical commodities activities would deprive the FHC of a source of assets and revenues that may not be correlated with the asset values and revenues derived from its other financial activities, thus limiting the FHC's ability to diversify its consolidated assets and revenue streams. Such a limitation could adversely affect the financial strength of the FHC, diminishing its ability to serve as a source of strength to its subsidiary depository institution. Second, to the extent that the subsidiary depository institution engages in commodity derivatives activities, it may not be able to hedge its risks as effectively or inexpensively, exposing it, among other things, to increased basis risk, than if the FHC has the ability to engage in Complementary Commodities Activities and provide the subsidiary depository institution with a more customized hedging transaction.

> ***Question 10.*** *How effective is the current value-at-risk capital framework in addressing the risk arising from holdings of physical commodities? Would additional or different capital requirements better address the potential risks associated with Complementary Commodities Activities?*

FHCs that are subject to the market risk capital rule (*see* 12 C.F.R. §§ 201-212) are required to use supervisor-approved VaR and stressed VaR models to calculate the market risk capital charge for all of their commodities positions. The VaR models required by the market risk capital rule are calibrated to a very high confidence level of 99%, meaning that there would be less than a 1 percent probability that market losses at the banking organization would exceed the risk-based capital requirement calculated under the market risk capital rule. Each quarter, an FHC subject to the market risk capital rule must identify the number of exceptions (*i.e.*, the number of business days for which the actual daily net trading loss, if any, exceeds the corresponding daily VaR-based measure) that have occurred over the preceding 250 business days; the FHC must then apply a multiplication factor ranging from 3.00 to 4.00 that corresponds to the number of exceptions to determine its VaR-based and stressed VaR-based capital requirements for market risk until it obtains the next quarter's backtesting results. These

requirements are designed to ensure that any actual exceptions to the VaR models are taken into account in calculating an FHC's market risk capital requirement.

In addition, as discussed in Section IV.B.6.h.3 of our comment letter, advanced approaches FHCs must calculate risk-weighted assets for operational risk, including the risk of legal liability. Please see page 67 of our comment letter for a discussion of the publicly available data on operational loss events since 2006, which we respectfully submit do not support the concern expressed in the Notice with respect to catastrophic losses from tail risk arising from commodities-related activities.

In light of the general strengthening of both risk-based capital (including market and operational risk) and leverage ratio requirements, as well as the requirement that banking organizations' capital be subject to company-run and supervisory stress tests, we respectfully submit that the newly adopted Basel III requirements should be given a chance to be fully phased in and implemented, and their effect felt, before consideration is given to imposing any new and additional capital charges for either Physical Commodities Handling Activities or Commodity Intermediation Activities (including Complementary Commodities Activities).

B. Whether the Complementary Commodities Activities are still Complementary to Financial Activities

Question 13. *In what ways are non-BHC participants in the physical commodities markets combining financial and nonfinancial products or services in such markets?*

We believe that non-BHC participants in the physical commodities markets face almost no legal, regulatory or practical restrictions on their ability to combine financial and nonfinancial products and services. Although they are not legally permitted to take deposits in the United States, they may be free to do so outside the United States and they are free to offer any number of deposit-substitutes, such as overnight repurchase agreement investments and other money market instruments.

Question 14. *What are the complementarities or synergies between Complementary Commodities Activities and the financial activities of FHCs? How have these complementarities or synergies changed over time?*

Please see the discussion in Section III.A.2 of our comment letter for a description of why the Complementary Commodities Activities continue to be complementary and synergistic to one or more financial activities.

Question 15. *What are the competitive effects on commodities markets of FHC engagement in Complementary Commodities Activities?*

Please see the discussion in Section IV.A of our comment letter for a description of the significant public benefits, including increased competition and gains in efficiency in the physical commodities markets, from allowing FHCs to engage in the Complementary Commodities Activities.

Question 16. *Does permitting FHCs to engage in Complementary Commodities Activities create material conflicts of interest that are not addressed by existing law? If so, describe such material conflicts and how they may be addressed.*

Please see the discussion in Section IV.B.6.f of our comment letter for an explanation of why we do not believe that permitting FHCs to engage in the Complementary Commodities Activities creates any material conflicts of interest that are not addressed by existing law.

Question 17. *What are the potential adverse effects and public benefits of FHCs engaging in Complementary Commodities Activities? Do the potential adverse effects of FHCs engaging in Complementary Commodities Activities, such as undue concentration of resources, decreased or unfair competition, conflicts of interest, unsound banking practices, or risk to the stability of the United States banking or financial system, outweigh the public benefits, such as greater convenience, increased competition, or gains in efficiency?*

Please see the discussion in Part IV of our comment letter for a detailed explanation of why the Complementary Commodities Activities have produced and should continue to produce significant public benefits that greatly exceed their potential adverse effects.

Question 18. *In what ways would FHCs be disadvantaged if they did not have authority to engage in Complementary Commodities Activities? How might elimination of the authority affect FHC customers and the relevant markets?*

Please see the discussion in Section III.A.2. and Section IV.A of our comment letter for a detailed explanation of how FHCs would be disadvantaged if they did not have authority to engage in the Complementary Commodities Activities and how creating conditions that would discourage FHCs from participating in the market or forcing them to exit the market would adversely affect their customers and the commodities markets generally.

II. Merchant Banking Authority

Question 19. *Should the Board's merchant banking rules regarding holding periods, routine management, or prudential requirements be more restrictive for investments in portfolio companies that pose significantly greater risks to the safety and soundness of the investing FHC or its subsidiary depository institution(s)? How could the Board evaluate the types and degrees of risks posed by individual portfolio companies or commercial industries?*

Please see the discussion in Section IV.B.6.h of our comment letter, as supported by the Joint Memorandum of Law attached as Appendix B and the safeguards described in Appendix C, for a detailed explanation of why making the Board's merchant banking rules regarding holding periods, routine management, or prudential requirements more restrictive would not be warranted and why it is unnecessary for the Board to evaluate the types and degrees of risks posed by individual portfolio companies or commercial industries.

Question 20. *Do the Board's current routine management restrictions and risk management requirements sufficiently protect against a court piercing the corporate*

veil of a FHC's portfolio company? If not, what additional restrictions or requirements would better ensure against successful veil piercing actions?

Please see the discussion in Section III.C.3 and Section IV.B.6.h of our comment letter, as well as the discussion in Part II of the Joint Memorandum of Law, attached as Appendix B, for a detailed explanation of why the Board's current routine management restrictions and risk management requirements, together with certain other appropriate safeguards when appropriate, such as those described in Appendix C, sufficiently protect an FHC and its affiliates against a court piercing the corporate veil of an FHC's portfolio company.

Question 21. *What are the advantages and disadvantages of the Board raising capital requirements on merchant banking investments or placing limits on the total amount of merchant banking investments made by a FHC? How should the Board formulate any such capital requirements or limits?*

Please see the discussion in Section IV.B.6.h.3 of our comment letter for why the existing enhanced capital requirements applicable to Merchant Banking Commodities Investments are sufficiently rigorous and why any additional limits on the total amount of merchant banking investments is unwarranted.

III. Section 4(o) Grandfather Authority

Question 23. *What are the advantages and disadvantages of the Board instituting additional safety and soundness, capital, liquidity, reporting, or disclosure requirements for BHCs engaging in activities or investments under section 4(o) of the BHC Act? How should the Board formulate such requirements?*

Appendix C to our comment letter includes a list of practices which, if implemented when appropriate, should be effective to avoid or substantially mitigate the risk of potential legal liabilities arising out of physical commodities activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. We believe that it is essential that all FHCs engaged in physical commodities activities, including Grandfathered Commodities Activities, should identify and comply rigorously with appropriate safeguards designed to mitigate any tail risks associated with Environmentally Sensitive Commodities Handling Activities. To the extent such FHCs are not doing so when appropriate, we believe the Board should require them to do so as part of the supervisory process. We do not believe, however, that any additional regulations are warranted governing the safety and soundness, capital, liquidity, reporting or disclosure requirements for BHCs engaging in activities or investments under Section 4(o) of the BHC Act.

Question 24. *Does section 4(o) of the BHC Act create competitive equity or other issues or authorize activities that cannot be conducted in a safe and sound manner by an FHC? If so, describe such issues or activities.*

We believe that the public benefits of the Grandfathered Commodities Activities, when conducted in compliance with appropriate safeguards when appropriate, such as those described in Appendix C, greatly outweigh their potential risks, and are not unsafe or unsound. To the

extent Section 4(o) of the BHC Act creates any competitive equity issues, we believe that the Board should consider addressing them by reviewing whether the Complementary Commodities Activities can be made consistent with the Grandfathered Commodities Activities, consistent with the safety and soundness of FHCs, their depository institution affiliates and U.S. financial stability.

APPENDIX B

JOINT MEMORANDUM OF LAW

COVINGTON & BURLING LLP
DAVIS POLK & WARDWELL LLP
SULLIVAN & CROMWELL LLP
VINSON & ELKINS LLP

Attached.

JOINT MEMORANDUM OF LAW
PREPARED FOR SIFMA
IN RESPONSE TO THE ADVANCE NOTICE OF PROPOSED RULEMAKING ON COMPLEMENTARY ACTIVITIES, MERCHANT BANKING ACTIVITIES, AND OTHER ACTIVITIES OF FINANCIAL HOLDING COMPANY GROUPS RELATED TO PHYSICAL COMMODITIES

(DOCKET NO. R-1479; RIN 7100AE-10)

COVINGTON & BURLING LLP
DAVIS POLK & WARDWELL LLP
SULLIVAN & CROMWELL LLP
VINSON & ELKINS LLP

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This memorandum discusses potential liabilities of financial holding companies ("FHCs"), their insured depository institution ("IDI") subsidiaries, non-IDI subsidiaries, broker-dealer subsidiaries, portfolio companies, and other affiliates (collectively, "FHC groups") arising from physical commodities activities and from merchant banking activities involving companies that are involved in businesses exposed to potential environmental liabilities. It is submitted in response to the Advance Notice of Proposed Rulemaking issued by the Board of Governors of the Federal Reserve System (the "Board") and published in the Federal Register on January 21, 2014 (the "ANPR")[1] on behalf of the Securities Industry and Financial Markets Association (SIFMA).[2] This memorandum discusses the direct and indirect liability schemes addressed in the ANPR, with a focus on what the ANPR describes as "tail risks" associated with the physical commodities activities of FHCs and their non-IDI affiliates.

Executive Summary

- An extensive body of environmental statutes and regulations is designed to prevent environmental incidents in the first instance and to allocate liability when such incidents occur.

- Under these laws, the parties responsible for damages resulting from the release of an environmentally sensitive commodity include the owner and operator of the facility from which the release occurred, as well as parties that directly handle the commodity or arrange for its treatment or disposal. Liability typically does not attach to an entity that merely owns a commodity that is released, or that enters into

[1] *Complementary Activities, Merchant Banking Activities, and Other Activities of Financial Holding Companies Related to Physical Commodities ("ANPR")*, 79 Fed. Reg. 3329 (Jan. 21, 2014).

[2] This memorandum is being provided to SIFMA in connection with its comment letter to the Board regarding the ANPR, and solely for use by SIFMA in that context. It may not be relied upon by SIFMA for any other purpose, and may not be relied upon by any party other than SIFMA for any purpose. This memorandum is provided to SIFMA jointly by the four law firms. The substantive legal analysis with respect to environmental liability has been primarily contributed by Covington & Burling LLP and Vinson & Elkins LLP. The legal analysis with regard to the other subjects addressed by the memorandum reflects the contributions of each of the four firms.

ordinary course contracts for transportation or storage. Nor does liability typically attach to an entity that merely invests in a business that is engaged in the activity that gives rise to the release.

- An investor in an operating company is not liable for environmental damages unless it becomes involved in the environmental affairs of the operating company, particularly as they relate to potentially polluting activities, or so dominates and controls the operating company that the two can be characterized as "alter egos" under common law principles.

- Investors in entities that own or operate facilities that handle environmentally sensitive commodities are generally protected from indirect, derivative liability by well-established principles of corporate separateness so long as they abide by appropriate guidelines.

Introduction

FHC groups that trade or invest in physical commodities, or that engage in commodities-related activities, face manageable liability risk for losses that might arise from such activities undertaken pursuant to the complementary, merchant banking, or grandfather authorities under Sections 4(k) and 4(o) of the Bank Holding Company Act. As set out in this memorandum, an extensive statutory and regulatory framework governs these activities for the purpose of promoting their safe conduct and minimizing the occurrence and scale of adverse incidents. Further, the legal framework governing such activities permits an FHC group to conduct them without presenting an undue risk to the FHC's safety and soundness.

This governing legal framework affords FHC groups significant legal safeguards that limit their risk of being held liable for losses resulting from the release of environmentally sensitive commodities. Some of these safeguards may be appropriate to apply in every situation; others may be appropriate with respect to certain higher-risk

investments or lines of business.[3] These safeguards include measures to limit the risk and magnitude of any environmental liability that may be imposed on owners of physical commodities or owners and operators of facilities for the extraction, generation, transportation, storage, or processing of physical commodities. They also include measures designed to ensure that the corporate separateness of an FHC and its IDI and non-IDI subsidiaries is respected when one or more of the FHC's other subsidiaries, portfolio companies, or investees engages in commodity-related activities or contracts with an unaffiliated enterprise engaged in such activities.

FHCs and their affiliates have powerful financial and regulatory incentives to adopt safeguards appropriate to their business practices. So long as they are properly followed, these safeguards should protect the safety and soundness of FHCs and their IDI and non-IDI affiliates against risks resulting from their physical commodities activities. Coupled with the wide array of protections built into the regulatory system to promote the safe conduct of activities in the first instance, these safeguards allow for the effective management of any liability risks from FHC groups' engagement in such activities.

Part I below discusses the allocation of liability under laws and doctrines relevant to the ownership, transportation, and storage of environmentally sensitive commodities, including the fundamental principle that an entity that merely owns commodities and contracts for their storage and transportation typically faces limited liability risks. Further, Part I describes practices and procedures that, if followed in whole or in part, depending on the relevant legal and operational risks associated with the particular

[3] For example, an FHC might determine to be less rigorous with respect to the practices adopted in connection with the shipment of iron than oil.

activity, can serve to further limit the liability risks associated with the release of environmentally sensitive commodities.

Part II below discusses potential sources of indirect liability, such as corporate "veil-piercing." It begins with a brief review of the foundational principle that an investor in a separate legal entity, such as a corporation or limited liability company, generally has no responsibility for the debts, torts, or wrongs of that entity. Part II then discusses the limited exceptions to that basic principle under veil-piercing theories, as well as the steps that can be taken to minimize the risk of veil-piercing liability.

Appendix C to the comment letter describes the safeguards that, if implemented appropriately in light of the relevant legal and operational risks, limit exposure to environmental liability and enhance corporate separateness, and thereby reduce the risk to the safety, soundness, and financial stability of FHC groups that engage in commodities activities and commodity-related merchant banking activities to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.

I. Appropriately Limited Investment and Trading Activities Relating to Environmentally Sensitive Commodities Present Limited Environmental Liability Risk to FHC Groups.

This Part I describes the relevant environmental liability laws with respect to the commodities-related activities of FHC groups, and the manageable liability risks that FHC groups face under these laws. Trading or investing in physical commodities, including environmentally sensitive commodities, or engaging in related activities such as extraction, generation, transportation, storage, or processing, may, in certain circumstances, give rise to liability for damages resulting from the release of

environmentally sensitive commodities. However, entities that own such commodities or contract with or invest in entities that engage in these activities generally face limited liability risk provided that they do not themselves engage in additional activities that can be a basis for environmental liability under relevant statutes and regulations. Further, FHCs and their affiliates can employ appropriate safeguards to limit their direct liability risk to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.

A. Federal Environmental Statutes

Several federal environmental statutes regulate environmentally sensitive commodities or activities related to them, including extraction, generation, transportation, storage, processing, and disposal of such commodities. The broadest of these laws is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"). Others include the Oil Pollution Act of 1990 ("OPA") and the Clean Water Act ("CWA"). The Pipeline Safety Act, the Natural Gas Act, the Hazardous Materials Transportation Act, Federal Railroad Administration statutes and regulations, and the Federal Motor Carrier Safety Administration statutes and regulations may also apply to the shipping and storage of some physical commodities.[4] As shown in Appendix F, both the frequency and size of environmental losses incurred by FHCs and

[4] Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, 49 U.S.C. §§ 60101–301; Natural Gas Act, 15 U.S.C. §§ 717–717z; Hazardous Materials Transportation Act, 49 U.S.C. §§ 5101–28; Rail Safety Improvement Act of 2008, 49 U.S.C. §§ 20101–21311; Federal Railroad Administration regulations, 49 C.F.R. §§ 200–69; the various motor carrier safety acts, codified at 49 U.S.C. §§ 501–26, 30101–183, 30301–308, and 31501–504, and the Federal Motor Carrier Safety Administration regulations, 49 C.F.R. §§ 350–99.

their affiliates due to releases of environmentally sensitive commodities have been relatively small, at least since 2006.

1. CERCLA

CERCLA, also known as the "Superfund" law, imposes joint and several liability on certain classes of persons for remedial costs and natural resource damages associated with the release of hazardous substances from a facility or vessel.[5] CERCLA makes four categories of persons responsible for releases of hazardous substances: (i) current owners and operators of a facility or vessel from which hazardous substances have been released; (ii) past owners and operators of a facility from which hazardous substances were released during their period of ownership; (iii) any person who arranged for disposal or treatment (or transportation for disposal or treatment) of hazardous substances; and (iv) transporters of hazardous substances to a disposal or treatment facility.[6] Under the statute, any and all of these parties may be held liable for remedial costs associated with the cleanup of sites contaminated by hazardous substances, for natural resource damages, and for the cost of certain health studies.[7]

CERCLA's definition of the "hazardous substances" subject to its reach specifically excludes petroleum, including crude oil or any fraction thereof, natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).[8] Thus, CERCLA does not apply to activities

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[5] 42 U.S.C. §§ 9601–75.

[6] *Id.* § 9607(a).

[7] *Id.*

[8] *Id.* § 9601(14); *see also Organic Chem. Site PRP Grp. v. Total Petrol. Inc.*, 58 F. Supp. 2d 755, 763 (W.D. Mich. 1999) ("This petroleum exclusion applies to both used and unused petroleum products and includes hazardous substances inherent in unused petroleum products or added to unused petroleum (….continued)

involving those substances. An assessment of potential liabilities under CERCLA is nonetheless highly relevant because CERCLA generally imposes the most onerous liability scheme under federal environmental law, and there has been substantially more litigation under CERCLA than under any other federal or state environmental law. Courts interpreting other environmental statutes accordingly often look to CERCLA cases as persuasive authority.[9]

a. Ownership and Trading of Physical Commodities

Mere ownership of physical commodities, together with ordinary-course contracting for associated transport and storage, does not fall into any of the categories listed above, and is not a basis for liability under CERCLA. Further, companies that merely contract with third parties for the transportation of physical commodities are insulated from liability by specific statutory provisions. Accordingly, an FHC or its affiliate that trades or invests in physical commodities would not face liability for remediation costs associated with release of the commodity from a facility merely because it was the owner of the commodity in question or contracted with a third party for its transportation or storage.

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products in the refining process; it does not apply to hazardous substances which are added to petroleum products during use."). Coal, metals, agricultural products, and other non-petroleum commodities may constitute hazardous substances under CERCLA if they exhibit certain hazardous characteristics. 42 U.S.C. § 9601(14)(C).

[9] *See, e.g.*, *United States v. Viking Res., Inc.*, 607 F. Supp. 2d 808, 822 n.46-47, 823 (S.D. Tex. 2009) (applying CERCLA principles with respect to corporate separateness and operator liability in the OPA context); *Harris v. Oil Reclaiming Co.*, 94 F. Supp. 2d 1210, 1213 (D. Kan. 2000) (applying Supreme Court's analysis of operator liability under CERCLA to OPA); *United States v. Dell'Aquilla*, 150 F.3d 329, 334 (3d Cir. 1998) (stating that the Supreme Court's analysis of operator liability under CERCLA is relevant under the Clean Air Act).

CERCLA includes a "shipper defense" that protects an owner of physical commodities that are released during shipment by a common or contract carrier. The statute provides that, with respect to releases during transportation for a purpose other than disposal or treatment, the carrier is considered the "owner or operator" that is subject to liability, and the shipper "shall not be considered to have caused or contributed to any release during . . . transportation which resulted solely from circumstances or conditions beyond his control."[10]

An owner of a commodity may, however, face risk of liability under CERCLA if the release occurred because of circumstances over which it had some control.[11] In *APL Co. Pte. Ltd. v. Kemira Water Solutions, Inc.*, for example, the district court refused to grant summary judgment in favor of a defendant chemical company, Kemira, that invoked the shipper defense under CERCLA for a release of ferrous chloride that Kemira had contracted to buy.[12] The record included evidence that Kemira provided detailed specifications as to how the released ferrous chloride would be packaged, how it would be stowed, and how it would be unloaded onto a vessel and at its final destination.[13] For example, Kemira's purchase agreement with the seller specified the kind of containers in which the chemicals would be stored and how they would be loaded.[14] On this record,

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[10] 42 U.S.C. § 9601(20)(B); *see also United States v. M/V Santa Clara I*, 887 F. Supp. 825, 839 (D.S.C. 1995) (rejecting the argument that shippers who arrange for the shipment of hazardous substances from which there is a later release, or threatened release, can be held as potentially responsible owners in addition to the common carrier, absent evidence that the shipper caused or contributed to the release).

[11] *M/V Santa Clara I*, 887 F. Supp. at 844.

[12] 890 F. Supp. 2d 360, 371-72 (S.D.N.Y. 2012).

[13] *Id.* at 370.

[14] *Id.*

the court denied Kemira's motion for summary judgment on the shipper defense, holding that (i) the seller—not Kemira—was the "shipper," and (ii) even if Kemira had been the "shipper," the company's involvement in determining the packaging of the hazardous cargo created a factual question as to whether the release of chemicals had resulted solely from events beyond Kemira's control.[15]

In contrast to the owner in *Kemira*, an owner of commodities that entrusts them to a qualified, responsible third-party for shipment, and does not become directly involved in the details of *how* the commodities will be shipped (apart from specifying their pickup point and destination), should be protected from any claim of having "contributed" to a release for purposes of CERCLA.[16]

This analysis is supported by the United States Supreme Court's decision in *United States v. Bestfoods*,[17] which held that a parent of a subsidiary that owns or operates a facility may be directly liable as an "operator" of the facility only if the parent "manage[s], direct[s], or conduct[s] operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations."[18] On remand in *Bestfoods*, the district court held that a parent company was not an operator, notwithstanding evidence of some oversight of the subsidiary's environmental practices.[19] In particular, a lawyer

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[15] *Id.* at 371–72.

[16] *See E. S. Robbins Corp. v. Eastman Chem. Co.*, 912 F. Supp. 1476, 1484–85 (N.D. Ala. 1995) (holding that the owner of a hazardous chemical was not liable as an owner or operator, despite providing certain instructions to the carrier regarding certain "equipment requirements and driver procedures").

[17] 524 U.S. 51 (1998).

[18] *Id.* at 66–67.

[19] *Bestfoods v. Aerojet-Gen. Corp.*, 173 F. Supp. 2d 729, 749 (W.D. Mich. 2001).

employed by the parent company gave advice to the subsidiary regarding environmental compliance.[20] However, his advice was generally disregarded, and the subsidiary had its own policies for day-to-day environmental compliance.[21] The parent also planned to expand production at the facility and assisted in developing products manufactured at the facility, and a chemist employed by the parent advised subsidiary employees on how to conduct manufacturing procedures, such as pressure and temperature settings.[22] Notwithstanding these connections, the court concluded that the parent's involvement did not "demonstrate the requisite control over the facility to render [the parent] liable as an operator of the facility."[23] It follows that an entity that merely contracts for transportation or storage and does not own the facilities in question or exercise control over their operations faces an even more remote risk of liability.

A mere owner of a physical commodity that contracts with a third party for the shipment of the commodity would also not be liable as an "arranger" under CERCLA. Such liability can attach to "any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity."[24] In *Burlington Northern & Santa Fe Railway Co. v. United*

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[20] *Id.* at 749–50.

[21] *Id.*

[22] *Id.* at 752–54.

[23] *Id.* at 755.

[24] 42 U.S.C. § 9607(a)(3). Under this provision, "treatment . . . of hazardous substances" is a limited concept that "refers to a party arranging for the processing of discarded hazardous substance or processing resulting in the discard of hazardous substances." *Pneumo Abex Corp. v. High Point, Thomasville & Denton R.R. Co.*, 142 F.3d 769, 774 (4th Cir. 1998) (holding that the sellers of hazardous (….continued)

States, the Supreme Court held that this section gives rise to liability for an arrangement to dispose of a hazardous substance only where an entity "takes intentional steps to dispose of a hazardous substance."[25] In that case, Shell sold pesticides to a third-party distributor, which transferred the pesticides into various tanks and vessels, often resulting in spills.[26] Shell was aware of these spills and took steps to encourage its distributors to adopt practices to minimize them.[27] The Court held that these facts did not give rise to arranger liability because Shell lacked the requisite intent to dispose of the pesticides.[28] The Court held that even knowledge by a seller that a hazardous substance "will be leaked, spilled, dumped, or otherwise discarded" by the purchaser "is insufficient to prove that [the seller] 'planned for' the disposal, particularly when the disposal occurs as a peripheral result of the legitimate sale of an unused, useful product," unless the seller actually intended the disposal of the substance.[29] While a court will "look beyond the parties' characterization of the transaction" in determining a seller's intent,[30] an FHC or

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metals were not liable under an arrangement for treatment theory under CERCLA, even though the buyer processed the metals, because the parties did not intend that the metals would be discarded).

[25] 556 U.S. 599, 611 (2009).

[26] *Id.* at 602–04.

[27] *Id.* at 604.

[28] *Id.* at 612–13.

[29] *Id.* at 612. *Burlington Northern*'s focus on the need to show intentional steps to dispose of a hazardous substance appears likely to limit earlier appellate decisions that had imposed arranger liability on parties involved in a manufacturing process that generated hazardous waste based on the party's general obligation to control the disposal of the hazardous waste generated by the process. *See, e.g., United States v. Aceto Agr. Chem. Corp.*, 872 F.2d 1373, 1381–82 (8th Cir. 1989). Further, it is our understanding that FHCs and their affiliates do not engage in manufacturing activities as in *Aceto* and, accordingly, they should be shielded from this type of arranger liability based on manufacturing.

[30] *Id.* at 610 (noting that this can be a "fact-intensive inquiry"); *cf. Carolina Power & Light Co. v. Alcan Aluminum Corp.*, 921 F. Supp. 2d 488, 496 (E.D.N.C. 2013) (noting that factors relevant to determination of intent for purposes of arranger liability include "the value of the materials sold, the (….continued)

its affiliate that invests in a useful commodity and arranges for its sale or transportation would typically lack any intent with respect to its ultimate disposal and thus would not be held liable for any release as an arranger under CERCLA.[31]

In sum, cases decided under CERCLA provide guidance for entities that own or trade physical commodities and engage in appropriately limited contracting for transportation or storage. Under the case law, such entities should not be at material risk under CERCLA so long as they avoid (i) involvement in the operational aspects of the transportation or storage of a hazardous substance and the setting of environmental compliance policies, and (ii) arranging for the treatment or disposal of a hazardous substance.

(continued….)
usefulness of the materials in the condition in which they were sold, and the state of the product at the time of transferral" (quoting *Pneumo Abex Corp.*, 142 F.3d at 775)).

[31] *See United States v. Vertac Chem. Corp.*, 966 F. Supp. 1491, 1507–08 (E.D. Ark. 1997) (holding that the commodity owner was not liable for arranging disposal when the evidence did not show that the sale of the hazardous but useful substance was "really a sham for disposal"); *Amcast Indus. Corp. v. Detrex Corp.*, 2 F.3d 746, 751 (7th Cir. 1993) (holding that a shipper was not liable as a party that "arranged . . . for transport for disposal or treatment" of the chemical when the shipper merely arranged for delivery of the useful chemical to a third party). Additionally, because a useful substance is not considered "waste," the sale of such a substance does not give rise to arranger liability under CERCLA. *See Team Enters., LLC v. W. Inv. Real Estate Tr.*, 647 F.3d 901, 908 (9th Cir. 2011) ("persons selling useful products do so for legitimate business purposes," not to dispose of such products); *Freeman v. Glaxo Wellcome, Inc.*, 189 F.3d 160, 164 (2d Cir. 1999) (finding that the sale of new, useful chemicals could not give rise to arranger liability because the chemicals were "not waste at the time that" they were purchased); *A & W Smelter & Refiners, Inc. v. Clinton*, 146 F.3d 1107, 1112–13 (9th Cir. 1998) (explaining that gold and silver ore may not be waste, even if mixed with some slag containing lead, and noting that "[i]f the ore was a useful product, then it was not waste and not subject to CERCLA"); *AM Int'l, Inc. v. Int'l Forging Equipment Corp.*, 982 F.2d 989, 999 (6th Cir. 1993) (sale of useful chemicals does not give rise to arranger liability); *Pakootas v. Teck Cominco Metals, Ltd.*, No. 04-256, 2012 WL 370105, at *3-4 (E.D. Wash. Feb. 3, 2012) (analogizing to the useful product defense to reject the argument that the government arranged for the disposal of "naturally occurring in-ground ore deposits").

b. Ownership and Operation of Facilities that Extract, Generate, Transport, Store, or Process Hazardous Materials

Entities that own or operate facilities that extract, generate, transport, store, or process hazardous substances face potential liability for releases under CERCLA. In addition, entities that contract for services with owners or operators of such facilities can under certain circumstances be deemed to be operators of the facilities themselves, with liability under CERCLA. Similarly, parents and affiliates of entities that own or operate facilities may be deemed operators based on their conduct. Legal doctrines have developed, however, that insulate such contracting entities and corporate parents and affiliates from operator liability, provided they do not assert control over the day-to-day operations or environmental compliance duties of the facilities. Within this framework, contracting parties and corporate affiliates may engage in due diligence or ordinary course parental oversight to help ensure generally safe operations without incurring liability. Accordingly, FHCs and their IDI and non-IDI subsidiaries should be insulated from any liability with respect to facilities owned and operated by others, including by affiliates, provided that they employ appropriate safeguards.

The Supreme Court articulated the standards for parent entity liability under CERCLA in the *Bestfoods* decision discussed above.[32] In that decision, the Court recognized two ways that a parent entity can be liable for releases of hazardous substances from a facility owned or operated by its subsidiary. First, under certain circumstances, a parent entity may be directly liable in its own right under CERCLA as an owner or operator of a facility based on its actions or conduct, where those actions or

[32] 524 U.S. 51 (1998).

conduct are connected to environmental affairs at the site.[33] Second, as with other types of liability, a parent entity may be held derivatively liable for the obligations of its subsidiary on a "veil-piercing" theory when the parent acts in a manner inconsistent with the separate corporate status of the subsidiary.[34] We discuss here the potential for direct operator liability under CERCLA; Part II discusses the potential for "veil-piercing" liability.

The Supreme Court held in *Bestfoods* that a parent of a subsidiary that owns or operates a facility is not itself an "owner" under CERCLA (absent veil-piercing), and may be directly liable as an "operator" only if the parent "manage[s], direct[s], or conduct[s] operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations."[35] The Supreme Court explained that, in determining whether to classify a parent company as an operator, courts must distinguish a parent's direct participation in or control over operations relating to pollution activities at the facility, which may trigger liability, from oversight of the subsidiary necessary to protect the parent's investment.[36] To find that a parent has operator liability, the conduct of the parent must relate to the polluting activities or environmental compliance of the facility in question.

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[33] *Id.* at 64.

[34] *Id.* at 62–64.

[35] *Id.* at 66–67.

[36] *Id.* at 67–68 ("The question is not whether the parent operates the *subsidiary*, but rather whether it operates the *facility*, and that operation is evidenced by participation in the activities of the facility, not the subsidiary.") (emphasis added) (internal quotation marks omitted). In this respect, the CERCLA analysis is considerably narrower than the alter ego/veil-piercing analysis discussed in Part II.

The Supreme Court also indicated in *Bestfoods* that a dual employee legitimately acting in his or her capacity as an employee of a subsidiary may engage in such activities without exposing the parent to direct liability.[37] In order for the actions of such dual employees to support parental liability, a plaintiff must show that, "despite the general presumption to the contrary," such employees were acting on behalf of the parent.[38]

Following *Bestfoods*, courts have confirmed that activities commonly undertaken by a parent company, such as general monitoring of the subsidiary's performance, supervising its financing and budget decisions, and establishing general policies and procedures, are appropriate under accepted norms of parental oversight and not a basis for operator liability. For example, as discussed above, the district court in *Bestfoods* held on remand that even though the parent had exercised some oversight of the subsidiary's environmental practices, such oversight did not result in CERCLA liability.[39] Similarly, in *Atlanta Gas Light Co. v. UGI Utilities, Inc.*, the Eleventh Circuit Court of Appeals held that a parent company was not liable as an operator even though (i) the parent had provided general operating, construction, and financial advice to the subsidiary, and (ii) most of the subsidiary's officers and directors were employees of the parent company.[40] Because the parent's involvement was advisory in nature and did not extend to managing, directing, or conducting operations of the facility specifically related

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[37] *Id.* at 69–70.

[38] *Id.* (citing P. Blumberg, *Law of Corporate Groups: Procedural Problems in the Law of Parent and Subsidiary Corporations* § 1.02.1 (1983)).

[39] *See supra* note 19 (citing *Bestfoods v. Aerojet-Gen. Corp.*, 173 F. Supp. 2d 729, 749 (W.D. Mich. 2001)).

[40] 463 F.3d 1201, 1205 (11th Cir. 2006).

to pollution, leakage, or disposal, the court held that the parent was not liable under CERCLA as an "operator" of the facility.[41]

By contrast, in cases where courts have determined that parent entities were liable under CERCLA for releases at a facility operated by a subsidiary, the parents were found to have controlled the subsidiary's day-to-day, routine or ordinary course operations related to facilities that contain hazardous substances, including by establishing policies specifically governing environmental compliance at such facilities. In *United States v. Kayser-Roth Corp.*, for instance, the court affirmed that the parent company could be held liable because it exercised substantial control over the subsidiary's environmental compliance activities as they related to the polluting facility.[42] The parent company had both (i) required the subsidiary to conduct a cost-benefit study of the installation of the system at the subsidiary's facility that used the hazardous substances at issue and (ii) approved the installation of that system.[43] In holding that the parent could be liable, the First Circuit relied on the trial court's findings that the parent "essentially was in charge in practically all of [the subsidiary's] operational decisions, including those involving environmental concerns" and that "[t]he only autonomy given the officers of [the subsidiary] was that absolutely necessary to operate the facility on-site from day to day such as hiring and firing hourly employees and ordering inventory."[44]

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[41] *Id.* at 1206.

[42] 272 F.3d 89, 104 (1st Cir. 2001) (holding that the intervening *Bestfoods* decision did not render inequitable the continued application of the trial court's judgment imposing liability on the parent).

[43] *Id.* at 102. The parent also required the subsidiary to notify it of any regulatory agency contact regarding environmental matters, and made the decision to settle a pollution-related case brought by the federal government against the subsidiary. *Id.* at 102, 104.

[44] *Id.* at 102–03 (quoting trial court decision). Indeed, the trial court concluded that the subsidiary "was in fact and effect the serf of [the parent]." *Id.* at 103.

These cases provide useful guidance to members of FHC groups that invest in physical-commodity facilities, as well as those that contract with owners and operators of such facilities. FHCs and their affiliates that do not control the polluting activities, or environmental compliance, of such facilities should not face a material risk of liability under CERCLA for any discharge.[45]

In at least one instance, Congress and the U.S. Environmental Protection Agency ("EPA") resisted a judicial attempt to expand CERCLA liability. In response to a judicial decision[46] that potentially limited the scope of the safe harbor that CERCLA provides for secured creditors,[47] EPA issued rules under which secured lenders could undertake a broad range of routine and prudent activities while still qualifying for the exemption.[48] After a judicial ruling that EPA lacked authority to restrict CERCLA's statutory private right of action by regulation,[49] Congress amended CERCLA to codify the EPA rules.[50]

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[45] Courts have also applied these principles to outline CERCLA liability in the context of limited partner structures. *See Redwing Carriers, Inc. v. Saraland Apartments*, 94 F.3d 1489, 1499–1505 (11th Cir. 1996) (finding that limited partners can be held directly liable as operators under CERCLA if they either (i) actually participated in operating the site or in the activities resulting in the disposal of hazardous substances; or (ii) actually exercised control over or were otherwise intimately involved in the operations of the partnership).

[46] *United States v. Fleet Factors Corp.*, 901 F.2d 1550, 1557–58 (11th Cir. 1990) (adopting a standard of liability for secured creditors under which a secured creditor would be liable under CERCLA if its involvement with the financial management of the facility is "sufficiently broad to support the inference that it could affect hazardous waste disposal decisions if it so chose").

[47] 42 U.S.C. § 9601(20)(A)(iii) (providing that an "owner or operator" under CERCLA "does not include a person, who, without participating in the management of a vessel or facility, holds indicia of ownership primarily to protect his security interest in the vessel or facility").

[48] National Oil and Hazardous Substances Pollution Contingency Plan; Lender Liability Under CERCLA, 57 Fed. Reg. 18,344 (Apr. 29, 1992) (to be codified at 40 C.F.R. pt. 300).

[49] *Kelley v. EPA*, 15 F.3d 1100, 1107 (D.C. Cir. 1994).

[50] *See* Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996, Pub. L. No. 104-208, 110 Stat. 3009-462 (1996). Prior to this amendment, EPA had announced that, as a matter of enforcement discretion, it would continue to follow the provisions of the rules it had issued. *See* CERCLA Enforcement Against Lenders and Government Entities That Acquire Property Involuntarily, Policy Announcement, 60 Fed. Reg. 63,517 (Dec. 11, 1995).

Under this amendment, a lender only "participate[s] in management," and thus does not qualify for the statutory exemption, if it (i) exercises decision-making control over the facility's environmental compliance, such that it has undertaken responsibility for the hazardous substance handling or disposal practices of the facility, or (ii) exercises managerial control over the facility, such that it has taken responsibility for either day-to-day decision-making with respect to environmental compliance, or all or substantially all of the facility's other operational functions (as opposed to financial or administrative functions).[51] These actions by Congress and EPA sought to maintain a workable balance between the assignment of responsibility for environmental damage and the facilitation of commercial lending activity.

2. Oil Pollution Act

As noted above, CERCLA does not apply to petroleum. The primary federal environmental law that addresses such products is the Oil Pollution Act. The liability scheme under OPA is modeled largely after CERCLA. OPA makes "responsible parties" strictly liable for discharges of "oil" from specified facilities into navigable waters of the United States.[52] Responsible parties are liable for a variety of removal costs and damages associated with a discharge of oil or the substantial threat of a discharge.[53]

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[51] 42 U.S.C. § 9601(20)(F)(ii). The amendment also provided that a secured creditor that forecloses on a facility or vessel is generally not liable as an "owner or operator" under CERCLA so long as it divests the facility or vessel "at the earliest practicable, commercially reasonable time[.]" 42 U.S.C. § 9601(20)(E)(ii). The few reported cases that imposed "owner" liability on lender banks that had foreclosed on property predated this amendment. *See, e.g.*, *Guidice v. BFG Electroplating & Mfg. Co.*, 732 F. Supp. 556 (W.D. Pa. 1989); *United States v. Maryland Bank & Trust Co.*, 632 F. Supp. 573 (D. Md. 1986).

[52] 33 U.S.C. § 2702(a). OPA does not apply to liquid natural gas, coal, or other commodities. *See id.* § 2701(23) (defining "oil" as "oil of any kind or in any form, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil").

[53] *Id.* § 2702(b).

From the perspective of FHC groups that trade or invest in oil, or contract with or invest in enterprises that engage in the extraction, transportation, storage, refining, or other processing of oil, the most relevant categories of responsible parties are those associated with vessels, pipelines, onshore facilities, and offshore facilities:

- For vessels, "responsible party" means "any person owning, operating, or demise chartering the vessel" as well as "the owner of oil being transported in a tank vessel with a single hull[.]"[54]

- For pipelines, "responsible party" means any person owning or operating the pipeline.[55]

- For onshore facilities, "responsible party" means any person owning or operating the facility.[56]

- For offshore facilities, "responsible party" means "the lessee or permittee of the area in which the facility is located or the holder of a right of use and easement granted under applicable State law or the Outer Continental Shelf Lands Act . . . for the area in which the facility is located[.]"[57]

Under these definitions, mere ownership of discharged oil, or the mere time or voyage chartering of the vessel from which the discharge took place (without acting as owner or operator of the vessel), is not in itself a basis for liability,[58] except in

[54] *Id.* § 2701(32). A demise charter is a charter agreement whereby the whole vessel is let to the charterer with a transfer to it of the entire command, possession, and control over its navigation. *See* 70 AM. JUR. 2D *Shipping* § 176.

[55] 33 U.S.C. § 2701(32).

[56] *Id.* An exception exists for certain governmental bodies that, as owners, transfer possession and right to use the property to another person by lease, assignment, or permit. *Id.*

[57] *Id.* The same exception for governmental bodies with respect to onshore facilities, *supra* note 56, applies in the context of offshore facilities as well. *Id.*

[58] *See* Charles B. Anderson & Colin de la Rue, *Liability of Charterers and Cargo Owners for Pollution from Ships*, 26 TUL. MAR. L.J. 1, 15 (2001) ("Under OPA-90 there is no federal statutory oil spill liability upon the owner of oil cargo."); *see also* 33 C.F.R. § 138.20(b) (under Coast Guard rule, "[a] time or voyage charterer that does not assume responsibility for the operation of a vessel is not an operator[.]").

circumstances where the vessel has a single hull.[59] With respect to operator liability, courts have concluded that the *Bestfoods* analysis discussed above applies to OPA in the context of onshore facilities.[60] Accordingly, an FHC and its affiliates should not face any liability for an oil discharge under OPA if they follow appropriate policies to ensure that they do not (i) control the day-to-day, routine, or ordinary-course operations (or the environmental-compliance program) of an affiliated or unaffiliated operator of onshore facilities; (ii) own, operate, or demise charter a vessel; or (iii) lease (or hold an authorization for) an area in which an offshore facility is located.[61]

3. Clean Water Act

The Clean Water Act prohibits the discharge of a pollutant into navigable waters of the United States (i) without a permit or (ii) in violation of a permit.[62] The statute defines "pollutant" broadly, and it includes most physical commodities such as oil, coal,

[59] The Oil Pollution Act required new covered vessels to be equipped with double hulls beginning in 1995, and generally prohibited the operation of single-hulled tankers in U.S. waters after 2010. 46 U.S.C. §§ 3703a(c)(3)(C)(i)–(vi), (c)(4)(A). In 1992, the International Convention for the Prevention of Pollution from Ships, or MARPOL, was amended to impose similar double-hull standards. *See* Int'l Maritime Org. ("IMO"), Construction Requirements for Oil Tankers (2014), *available at* http://www.imo.org/OurWork/Environment/PollutionPrevention/OilPollution/Pages/constructionrequirements.aspx (stating that MARPOL was amended in 1992 to require tankers of 5,000 deadweight tons and more, ordered after July 6, 1993, to be fitted with double hulls).

[60] *See United States v. Viking Res., Inc.*, 607 F. Supp. 2d 808, 822 n.47 (S.D. Tex. 2009) (concluding that the *Bestfoods* "operator" analysis applies in OPA cases involving onshore facilities because, for onshore facilities, CERCLA's definition of an "operator" is "virtually identical" to OPA's definition of an "operator"). At least one court has held that the *Bestfoods* "operator" analysis does not apply to vessels under OPA because OPA includes a separate financial-responsibility provision for vessels. *Green Atlas Shipping SA v. United States*, 306 F. Supp. 2d 974, 980–81 (D. Or. 2003). Applying this reasoning, CERCLA's "operator" jurisprudence likewise might not govern OPA liability for "operators" of offshore facilities because OPA includes a distinct financial-responsibility provision for offshore facilities, as well. *See* 33 U.S.C. § 2716(c).

[61] *See infra* Part I(B)(1) (discussing cargo owner liability under state statutes).

[62] 33 U.S.C. §§ 1311(a), 1362(12).

liquid natural gas, metals, and agricultural products.[63] The CWA imposes liability on a party who discharges a pollutant in violation of the Act or a permit issued under it.[64] Thus, an FHC or affiliate that simply trades in physical commodities and does not itself own or operate a facility, or participate in or otherwise cause or contribute to a violation of the CWA, should not bear any direct liability under the CWA.

Ordinary due diligence of an unaffiliated operator, or ordinary shareholder or board of directors-level general oversight of an affiliated operator, is insufficient to impose liability under the CWA. In *United States v. Avatar Holdings, Inc.*, for example, the court held that a parent entity was not liable under the CWA because it did not "cause" or "direct" a discharge of oil by its subsidiary, as it had not taken responsibility for decisions regarding day-to-day operations and environmental compliance.[65] Rather, the parent's role in its subsidiary's operations was limited to overall financial review and long term strategic planning.[66] Although the parent was aware of compliance issues at the subsidiary's facility and had discussed large capital projects that could have prevented

[63] *See id.* § 1362(6) (defining "pollutant" as "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water"). While the CWA's definition of "pollutant" is quite broad, the effects of different commodities on the environment in the event of a release may vary greatly.

[64] *See Comm. to Save Mokelumne River v. E. Bay Mun. Util. Dist.*, 13 F.3d 305, 309 (9th Cir. 1993) (finding defendants liable under CWA for discharging pollutant into navigable waters from point source without discharge permit); *Idaho Conservation League v. Atlanta Gold Corp.*, 844 F. Supp. 2d 1116, 1127 (D. Idaho 2012) ("Any permit noncompliance constitutes a violation of the CWA and is grounds for an enforcement action."). The CWA also imposes liability on a party who (i) performed work authorized by a permit for the discharge of dredged or fill material to navigable waters or (ii) had responsibility for or control over the performance of the work. *Stillwater of Crown Point Homeowner's Ass'n, Inc. v. Kovich*, 820 F. Supp. 2d 859, 887 (N.D. Ind. 2011).

[65] No. 93-281-CIV-FTM-21, 1996 WL 479533, at *15 (M.D. Fla. Aug. 20, 1996).

[66] *Id.*

a discharge, the court concluded that the parent did not engage in the kind of operational decisions at the facility necessary to impose liability under the CWA.[67]

Accordingly, an FHC or any of its affiliates that owns or contracts with the owner of a facility that discharges a pollutant, but makes no operational decisions regarding the pollutant's extraction, transportation, storage, or processing activity that results in the discharge, should not be liable under the CWA for any discharge.

4. FHC Groups Can Adopt Policies and Procedures that Appropriately Limit the Risk of Federal Statutory Environmental Liability

As the foregoing overview demonstrates, the circumstances under which the ownership of commodities or the ownership or operation of facilities can give rise to liability under federal law are well established. Accordingly, by adopting appropriate policies and procedures governing their conduct with respect to such investments, FHCs and their affiliates can limit the risk of direct liability under federal environmental law to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.[68]

On this basis, FHCs and their affiliates may conduct normal and prudent shareholder or board of directors oversight over portfolio companies and other investees that engage in environmentally sensitive activities without incurring a material risk of direct liability under federal environmental statutes, so long as they avoid controlling the

[67] *Id.* at *15–16.

[68] Because courts look to similar factors under CERCLA, OPA, CWA, and other federal environmental laws in determining the direct liability of a parent entity, the same practices will help avoid liability risk under all three statutes. Courts have also applied the *Bestfoods* liability analysis to other environmental laws. *See supra* note 9.

day-to-day, routine, or ordinary course activities of those portfolio companies and other investees relating to physical commodities activities. In addition, FHCs and their affiliates may entrust physical commodities they own to qualified shipping and storage companies without incurring a material risk of such liability for discharges that were beyond their control to prevent, provided that they do not, beyond the necessary due diligence, exercise day-to-day operational control over the facility. Consistent with these principles, the practices summarized in Appendix C, when implemented in whole or in part depending on the relevant legal and operational risks associated with the particular activity, should afford FHCs and their affiliates significant protection from potential liability based on their physical commodities activities.[69]

Indeed, the Federal Reserve's Supervisory Letters have long recognized the value of such safeguards. Beginning in 1991, the Board identified steps that banking organizations can take to protect against the risk of environmental liability, particularly

[69] The train derailment and fire in Lac-Mégantic, Quebec, in 2013 (discussed at page 7 of the ANPR) demonstrates some of the risks that can arise when a commodity owner assumes control over day-to-day operations of transportation or storage facilities. Although the owner there, World Fuel Services, Inc., is not an FHC and has not yet been held liable for any damages arising from the incident, its exposure—and that of its affiliates—to claims arising from the incident teach important risk-management lessons for FHC groups. As noted in the ANPR, one of the contributing factors found by the Transportation Safety Board of Canada in its investigation of the accident was the owner's misclassification of the cargo as high-flashpoint (Group 3) crude oil when in fact it was low-flashpoint (Group 1) crude oil. Equally important—if not more important—were additional factors alleged by the plaintiffs seeking to hold World Fuel Services and its affiliates liable for a portion of the resulting damages, including that (i) World Fuel Services entities rented the rail tank cars that were to be used to transport its crude oil and provided the tank cars to the railway operators that it selected to transport the oil and (ii) all of the tank cars were of an older design that was not recommended for use in transportation of Group 1 highly flammable crude oil. *Keach v. World Fuel Servs. Corp.*, Bk. No. 1:13-bk-10670 (Bankr. D. Me. filed Jan. 30, 2014). According to the plaintiffs, World Fuel Services entities were extensively involved in all aspects of the transportation of the crude oil, including providing inappropriate rail cars to transport the oil. To control the risk of liability on such grounds, FHC groups engaged in commodity activities employ a number of appropriate safeguards described in Appendix C.

from sites contaminated with hazardous waste.[70] The Board has recognized that "[b]anks may avoid or mitigate potential environmental liability by having sound policies and procedures designed to identify, assess, and control environmental liability."[71] Such actions must be carefully balanced such that "any policies and procedures undertaken to assess and control environmental liability cannot be construed as taking an active role in the management or day-to-day operations of the borrower's business."[72] The Board has thus recognized the availability of effective policies and procedures to limit environmental liability risks.[73]

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[70] *See* Federal Reserve, Supervisory Letter SR-91-20 "Environmental Liability" (Oct. 11, 1991), *available at* http://www.federalreserve.gov/boarddocs/srletters/1991/SR9120.HTM (providing a list of safeguards and controls to limit the exposure of banking organizations to potential environmental liability).

[71] DIV. OF BANKING SUPERVISION AND REGULATION, BD. OF GOVERNORS OF THE FED. RESERVE SYS., COMMERCIAL BANK EXAMINATION MANUAL §2040.1, at p. 22 (Apr. 2012), *available at* http://www.federalreserve.gov/boarddocs/supmanual/cbem/cbem.pdf.

[72] *Id.* at 23.

[73] In addition, the Board has placed limits on FHCs in the complementary authority context that: (i) limit the aggregate market value of commodities held as a result of physical commodity trading to no more than five percent of tier 1 capital; (ii) generally limit trading to commodities approved by the Commodity Futures Trading Commission for trading on U.S. futures exchanges; and (iii) require insurance policies to address risks associated with environmentally sensitive commodities. *See The Royal Bank of Scotland Group plc*, 94 Fed. Res. Bull. C60 (2008) (approving The Royal Bank of Scotland plc's proposal to engage in physical commodity trading activities where The Royal Bank of Scotland plc agreed to limit the aggregate market value of commodities held as a result of physical commodity trading to no more than five percent of tier 1 capital, and generally limit trading to commodities approved by the Commodity Futures Trading Commission); *Citigroup Inc.*, 89 Fed. Res. Bull. 508 (2003) (approving Citigroup's proposal to engage in physical commodity trading activities where Citigroup committed to the Board that the owners of the vessels that carry oil on its behalf will carry certain kinds of insurance, that such vessels will be of a certain age and quality, and that it will hire inspectors to monitor the oil storage facilities that it uses). The Board has also limited the scope of FHC involvement with energy management services. *Fortis S.A./N.V.*, 94 Fed. Res. Bull. C20 (2008). *See generally* DIV. OF BANKING SUPERVISION AND REGULATION, BD. OF GOVERNORS OF THE FED. RESERVE SYS., BANK HOLDING COMPANY SUPERVISION MANUAL: LIMITED PHYSICAL-COMMODITY-TRADING ACTIVITIES (SECTION 4(K) OF THE BHC ACT) § 3920.0 (July 2008), *available at* http://www.federalreserve.gov/boarddocs/supmanual/bhc/bhc.pdf.

B. State Statutory and Common Law Liability Risk

1. State Statutes

State statutory regimes impose various liabilities and remediation obligations for releases of environmentally sensitive commodities. For example, there are a variety of state laws governing the discharge of petroleum, and a minority of states have imposed varying degrees of liability on cargo owners in the event of a release.[74] Some of these states may include cargo owners within the definition of "any person" who "discharges" oil,[75] while other states, such as Florida, impose liability upon a cargo owner as a secondary matter if it is determined that a responsible vessel owner cannot pay for cleanup.[76] Additional state laws may govern duties and liability with respect to the transportation, storage, and handling of other types of commodities.

In view of these disparate state approaches, an FHC should, to the extent appropriate in the context of the risk profile presented in the particular situation, conduct a jurisdiction-by-jurisdiction evaluation of the liability regimes applicable to any particular investments and activities. An FHC's review and decision making with respect to the risks of such investments and activities would be conducted in the context of the FHC's normal risk management process, subject to board oversight.

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[74] *See* Anderson & de la Rue, *supra* note 58, at 21-22 (discussing Alabama, Alaska, California, Connecticut, Florida, Louisiana, Maine, Maryland, New Jersey, New York, North Carolina, and Texas statutes); *see also, e.g.*, Alaska Stat. § 46.03.758(e)(2)(B) (imposing liability with respect to spills in excess of 18,000 gallons on "the owner of the oil carried as cargo on the vessel at the time the vessel was loaded"); Wash. Rev. Code § 90.56.370(1) (creating liability on "[a]ny person owning oil" that unlawfully enters state waters). One study found that, as of 1995, twelve states had enacted laws that make "the owner of the oil responsible for a spill under certain circumstances." Marva Jo Wyatt, *Financing the Clean-up: Cargo Owner Liability for Vessel Spills*, 7 U.S.F. Mar. L.J. 353, 369 (1995).

[75] *See* Anderson & de la Rue, *supra* note 58, at 21

[76] *Id.* at 21 (citing Fla. Stat. Ann. § 376.12 (West 1997)).

2. Common Law

State common law tort doctrines pose additional potential bases for liability for environmental harms. Persons that engage in transportation, storage, and other activities may be subject to liability on a number of theories, including strict liability in the case of abnormally dangerous activities. State common-law tort doctrines do not, however, impose liability for releases of hazardous materials or similar catastrophic events based on mere ownership of physical commodities. As discussed below, owners of commodities will be held liable for such occurrences only if they cause or contribute to the event causing the loss or are otherwise engaged in "operator" activities such as transportation, storage, generation, or processing.

Common-law liability for remediating contamination caused by environmental incidents may be foreclosed in certain circumstances by federal law. For instance, the U.S. Court of Appeals for the Fifth Circuit recently held, in the context of the *Deepwater Horizon* incident, that the regulatory structure provided by Congress in the CWA and OPA preempts the application of state law to claims arising from an oil spill that occurs outside state waters, such as in the waters of another state or in the Outer Continental Shelf.[77] Similarly, despite potential concerns about the unpredictability of climate change liability and consequent insurance coverage,[78] the Supreme Court has held that any cause of action to address climate change-causing power plant emissions under a theory of federal common law nuisance is displaced by the Clean Air Act's grant of

[77] *In Re: Deepwater Horizon*, No. 12-30012, 2014 WL 700065, at *9-12 (5th Cir. Feb. 24, 2014) (citing *Int'l Paper Co. v. Ouellette*, 479 U.S. 481 (1987)).

[78] *See* ANPR, 79 Fed. Reg. 3329, 3333 n.41 (Jan. 21, 2014).

regulatory authority to EPA to address such emissions.[79] While an FHC group's protection in the event that liability is imposed upon an affiliated operating entity for one of these torts lies largely in taking appropriate steps to prevent veil-piercing liability, as described in Part II, common-law theories of liability also contain significant limitations.[80]

a. Nuisance

Common-law liability for nuisance generally may be imposed where an entity causes an invasion of another's interest in the use and enjoyment of land and the invasion is either (i) "intentional and unreasonable" or (ii) otherwise actionable as a tort (for instance, as negligence or strict liability).[81] This subsection considers nuisance liability premised on intentional and unreasonable invasions; negligence and strict liability

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[79] *See Am. Elec. Power Co. v. Connecticut*, 564 U.S. ___, 131 S. Ct. 2527, 2537 (2011) ("We hold that the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants.").

[80] Not all state common-law claims are categorically preempted by federal environmental regulatory statutes, though even where not categorically preempted they may be barred as a matter of conflict preemption in some instances. For instance, personal injury and property damage tort claims typically are not categorically preempted under CERCLA. *See, e.g.*, *Village of DePue, Ill. v. Exxon Mobil Cor*p., 537 F.3d 775, 786 (7th Cir. 2008) ("CERCLA contemplates 'action[s] brought under State law for personal injury, or property damages, which are caused or contributed to by exposure to any hazardous substance, or pollutant or contaminant, released into the environment from a facility.'" (alteration in original) (quoting 42 U.S.C. § 9658(a)(1))). Further, the Supreme Court has found that "nothing in the [Clean Water] Act bars aggrieved individuals from bringing a nuisance claim pursuant to the law of the *source* State." *Ouellette*, 479 U.S. at 497; *see also Deepwater Horizon*, 2014 WL 700065 at *12 (noting that state-law claims would not be preempted by CWA or OPA for sources of pollution "on the land or navigable waters within a state," and that preemption is "limited to situations in which the affected state is not the point source jurisdiction"). In addition, state law nuisance, negligence, and trespass claims have been found by one court not to be categorically preempted by the Clean Air Act, although the scope of the Supreme Court's decision in *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011), has yet to be settled. *See Bell v. Cheswick Generating Station*, 734 F.3d 188, 197 (3d Cir. 2013), *petition for cert. filed* (Feb. 20, 2014). *But see N.C. ex rel. Cooper v. TVA*, 615 F.3d 291, 302–03 (4th Cir. 2010) (holding that state common-law nuisance claims are generally preempted by the Clean Air Act).

[81] RESTATEMENT (SECOND) OF TORTS § 822; *see also Scribner v. Summers*, 84 F.3d 554, 559 (2d Cir. 1996).

theories are considered below.[82] An invasion is "intentional" only where an actor has the purpose of causing the invasion or knows that the invasion is substantially certain to result from the actor's conduct, not where an invasion takes place accidentally.[83] Whether an invasion is "unreasonable" hinges on comparing the gravity of the harm to the utility of the conduct, as well as the financial burdens of compensating for any harm caused to others.[84]

In most instances, it would be difficult to prove that any interference with another's property arising out of mere ownership of commodities or their ordinary course transportation or storage was both "intentional" and "unreasonable."[85] Thus, both of these elements substantially limit the potential liability of FHCs and their affiliates that invest in commodities.

b. Trespass

Common-law liability for trespass generally may be imposed where an entity intentionally enters, or causes a thing to enter, land in the possession of another, or where such entry is reckless or negligent and causes actual harm.[86] As is the case with nuisance, "intent" is defined as acting for the purpose of causing the invasion or with the

[82] *See infra* Part I(B)(2)(c) and (d).

[83] RESTATEMENT (SECOND) OF TORTS § 825.

[84] *Id.* § 826.

[85] *See, e.g.*, *Gussack Realty Co. v. Xerox Corp.*, 224 F.3d 85, 94 (2d Cir. 2000) (finding that spills resulting from "simple and small-scale accidents or carelessness," "combined with a non-obvious theory of causation," could not give rise to a nuisance claim as there was "not the kind of intentional conduct" required for a state-law nuisance claim).

[86] Restatement (Second) of Torts §§ 158, 165.

belief that the invasion is substantially certain to result from the actor's conduct.[87] Thus, courts have been reluctant to find liability for unintentional trespass stemming from pollution activities.[88] In most instances, mere ownership of commodities or their ordinary course transportation or storage should not give rise to the type of intent necessary to support a trespass claim.

c. Negligence and Negligent Entrustment

An entity may be liable under a theory of negligence if it engages in "conduct that creates or fails to avoid unreasonable risks of foreseeable harm to others."[89] Principles of corporate separateness, as discussed in Part II, are the main protection for FHCs against the risk of negligence liability. Any risk of such negligence liability would (i) stem from operational activities beyond mere commodity ownership or arrangement for transportation or storage in the ordinary course,[90] or (ii) arise under a negligent

[87] *See, e.g.*, *Brutsche v. City of Kent*, 193 P.3d 110, 116 n.7 (Wash. 2008); *see generally* RESTATEMENT (SECOND) OF TORTS § 8A.

[88] *See, e.g., In re: Oil Spill by the Oil Rig "Deepwater Horizon*," MDL No. 2179, 2011 U.S. Dist. LEXIS 131069, at *48 (E.D. La. Nov. 14, 2011) (finding that Louisiana's trespass claims in the context of the *Deepwater Horizon* spill were subsumed by its negligence claims, because the complaint failed to allege "that any Defendant intended to place oil [on] its property" and, as to unintentional trespass, offshore drilling was not an ultra-hazardous activity and "except in instances involving ultra-hazardous activity, a defendant is liable only when his conduct is negligent, and only for the harm caused"); *Rudd v. Electrolux Corp.*, 982 F. Supp. 355, 370 (M.D.N.C. 1997) (holding that "the unintentional, non-negligent discharge of a hazardous substance on [defendants'] property alone does not constitute a trespass, particularly when they had no knowledge of the leak," even where it migrates onto the plaintiff's property); *United Proteins, Inc. v. Farmland*, 915 P.2d 80, 84 (Kan. 1996) (reversing trial court's finding that a discharge of hexavalent chromium gave rise to trespass, finding that there was "no basis to conclude the discharge of hexavalent chromium was either purposeful or substantially certain to occur").

[89] 1 Dobbs et al., THE LAW OF TORTS § 126 (2d ed. 2011).

[90] For example, negligence for activities beyond mere commodity ownership or arrangement for transportation or storage in the ordinary course has been alleged in the ongoing litigation concerning the train derailment and fire that occurred in Lac-Mégantic, Quebec. *See supra* note 69.

entrustment theory, which is a doctrine concerning the particular duty of care owed in the context of entrusting goods to another.[91]

Liability for negligent entrustment could potentially arise in the event that (i) an owner of environmentally sensitive commodities negligently entrusted the commodities to an incompetent transportation or storage facility, and (ii) the incompetent facility allowed a discharge of the commodities.[92] In some jurisdictions, liability can ensue if the owner knew or should have known that the third party to whom the material was entrusted was incompetent;[93] in others, actual knowledge of such incompetence is required.[94] Additionally, the sale of a commodity, as opposed to its entrustment, does not give rise to a negligent entrustment claim in some jurisdictions.[95]

FHCs and their affiliates can effectively minimize any risk of negligent entrustment liability by conducting adequate due diligence on companies hired to transport or store commodities in which they invest. The appropriate scope of due diligence will vary depending upon the underlying commodity and the nature of any

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[91] *See, e.g.*, *Casebolt v. Cowan*, 829 P.2d 352, 355-56 (Colo. 1992) (discussing the doctrine of negligent entrustment).

[92] RESTATEMENT (SECOND) OF TORTS § 390 (1965).

[93] *Id.; see Shaffer v. Maier*, Nos. C-900573, C-900600, 1991 WL 256493, at *8 (Ct. App. Ohio Dec. 4, 1991) (affirming a directed verdict in favor of defendant because there was no proof that the defendant knew, or knew of facts and circumstances as would allow it to imply that it knew, that the third party it had contracted to refuel an airplane was incompetent), *rev'd on other grounds*, 68 Ohio St. 3d 416 (1994).

[94] *See, e.g.*, *Downs v. Panhandle E. Pipeline Co.*, 694 N.E.2d 1198, 1207 (Ind. Ct. App. 1998) (requiring actual knowledge to state a negligent entrustment claim under Indiana law).

[95] *See Thompson v. Mindis Metals, Inc.*, 692 So. 2d 805, 807 (Ala. 1997) (finding that there could be no negligent entrustment where the defendants transferred their complete ownership interests in the cargo and retained no dominion or control over them); *Nat'l Convenience Stores, Inc. v. T.T. Barge Cleaning Co.*, 883 S.W.2d 684, 687 (Tex. App.—Dallas 1994) ("The Texas cause of action does not hold a seller of a chattel liable under negligent entrustment."). *But see* RESTATEMENT (SECOND) OF TORTS § 390 (1965), cmt. (a) (providing for negligent entrustment resulting from a sale).

trading partners.[96] One commonly used procedure is to hire a qualified third-party contractor who is responsible for vetting unaffiliated transporters and storage operators to assess their regulatory compliance history and to confirm the adequacy of their assets, storage facilities, and management systems.[97] In addition, contracts with transportation and storage companies may allocate the risks of unauthorized releases to those companies and provide indemnification or insurance from well-capitalized entities in the unlikely event that the commodity owner is subjected to liability for discharges during shipping or storage.

d. Strict Liability

Strict liability is a common-law doctrine that imposes civil liability on any person who conducts an abnormally dangerous activity that proximately causes harm to the person, land, or chattels of another, even if the person who conducts that activity has exercised the utmost care to prevent the harm.[98] In determining whether an activity is abnormally dangerous, courts consider factors such as (i) the degree of risk of harm; (ii) the likelihood than any resulting harm will be great; (iii) the inability to eliminate risk; (iv) whether the activity is common in the area; (v) the appropriateness of the

[96] As a practical matter, the scope of an owner's due diligence inquiry will vary based on the trading scenario being pursued by the company and the industry prominence of the entities that an owner engages to transport and/or store its physical commodities before the sale of the commodities to a subsequent owner. For example, a lesser degree of due diligence is required when a simultaneous purchase and sale of commodities takes place than when an owner contracts to sell the commodities to a subsequent owner at another location, which necessitates the first owner's arrangement for shipment and/or storage of the commodity.

[97] This option avoids any potential argument that due diligence is so extensive as to constitute the operation of the facility in question.

[98] RESTATEMENT (SECOND) OF TORTS § 519 (1977).

activity to the area; and (vi) whether the danger of the activity outweighs its social value.[99]

Mere ownership of physical commodities is not the kind of activity that courts have found to be abnormally dangerous.[100] A company could be subject to strict liability, however, if it engaged in the handling, transportation or storage of certain materials, including radioactive materials and other particularly hazardous substances.[101] FHCs and their affiliates can effectively manage this risk by implementing controls to ensure that they do not engage in handling, transportation or storage activities with respect to such materials and to ensure that any such activities conducted by any other affiliates are sufficiently separated from the FHC and its other IDI and non-IDI affiliates.

e. Negligence Per Se

Common-law liability for environmental harm could potentially be imposed under the doctrine of negligence per se. A plaintiff seeking to impose liability under the

[99] *Id.* § 520; *see also Abbatiello v. Monsanto Co.*, 522 F. Supp. 2d 524, 531 (S.D.N.Y. 2007) (explaining that New York courts look to the six factors listed in RESTATEMENT (SECOND) OF TORTS § 520 when analyzing strict liability claims).

[100] *See Indiana Harbor Belt R.R. Co. v. Am. Cyanamid Co.*, 916 F.2d 1174, 1181 (7th Cir. 1990) (noting that "ultrahazardousness or abnormal dangerousness is, in the contemplation of the law at least, a property not of substances, but of activities: not of [a particular chemical], but of the transportation of [that chemical] by rail through populated areas"); *Valentine v. Pioneer Chlor Alkali Co. Inc.*, 109 Nev. 1107, 1110, 864 P.2d 295, 297 (1993) (holding that dangerous substances do not give rise to strict liability unless the activity involving that substance is abnormally dangerous); *Erbich Prod. Co., Inc. v. Wills*, 509 N.E.2d 850, 856 (Ind. Ct. App. 1987) (finding the fact that a substance is dangerous "not determinative" in deciding whether to impose strict liability).

[101] *See Indiana Harbor Belt*, 916 F.2d at 1182 (holding that the shipper of acrylonitrile, a hazardous chemical, by rail was not strictly liable for the consequences of a spill, but stating that the court "need not speculate on the possibility of imposing strict liability on shippers of more hazardous materials" such as bombs); *cf. Avemco Ins. Co., Inc. v. Rooto Corp.*, 967 F.2d 1105, 1107–09 (6th Cir. 1992) (affirming the district court's conclusion that storage of tanks of hydrochloric acid was not an ultrahazardous activity under Michigan law because the chemicals created little risk of harm while in storage and the risk was capable of elimination by exercise of reasonable care).

negligence per se doctrine must prove that the defendant's injurious conduct violated a statute or regulation designed to protect people in the plaintiff's position.[102]

Because negligence per se applies only if a statute or regulation is violated, the policies and procedures described above and in Appendix C that limit the risk that an FHC or its affiliates will bear liability under the environmental laws also effectively limit the risk of any finding of negligence per se.[103]

C. Effectiveness of Existing Environmental Laws

Having discussed above the established legal principles and regulatory practices that protect FHCs and their affiliates against environmental liability, it is also worth noting that the environmental regulatory system is generally effective in minimizing the frequency and scale of environmental incidents that may give rise to liability in the first instance. Environmental regulatory agencies have responded in a robust fashion to emerging environmental threats and to the lessons learned from significant environmental

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[102] *See Key v. Liquid Energy Corp.*, 906 F.2d 500, 506 (10th Cir. 1990) (holding that the duties imposed by transportation safety regulations are owed to the general public as well as parties who transport or sell hazardous materials in their dealings with one another); *Poliskie Line Oceaniczne v. Hooker Chem. Corp.* 499 F. Supp. 94, 97 (S.D.N.Y. 1980) (holding that a company's violation of regulations regarding stowage of drums of a hazardous chemical would constitute negligence per se with respect to harm caused by an accident involving the chemical).

[103] In addition, these risks are limited by careful and prudent compliance by operating entities with the permitting and operational requirements set forth in any applicable statutes. For example, the Hazardous Materials Transportation Act requires compliance with regulations for transporting hazardous materials promulgated by the Secretary of Transportation. 49 U.S.C. § 5106; 49 C.F.R. § 171.2. These regulations first classify different types of hazardous materials and then specify the types of packaging that must be used when transporting each class of materials. *See generally* 49 C.F.R. §§ 172.101, 173.240–.249 (listing hazardous materials and bulk packaging requirements). The regulations also require that persons offering or accepting hazardous materials for transportation register with the Department of Transportation, subject to certain exceptions for smaller-quantity shipments. 49 C.F.R. §§ 171.2(d), 107.601. Another example is the Pipeline Safety Act, which requires compliance with regulations promulgated by the Secretary of Transportation setting "minimum safety standards for pipeline transportation and for pipeline facilities." 49 U.S.C. § 60102(a)(2). These regulations establish a variety of requirements, including as to pipeline construction, pipeline design, pipeline testing, pipeline operations, and qualifications of personnel. 49 C.F.R. pt. 192. A separate set of regulations applies to liquefied natural gas facilities. 49 C.F.R. pt. 193. The Pipeline Safety Act also requires regular pipeline inspection and maintenance. 49 U.S.C. § 60108.

events, such as large oil spills. In addition, companies are adopting sophisticated environmental management systems to assure the integrity of their environmental compliance and performance. The combination of comprehensive regulation and active responses to environmental incidents has resulted in a significant decrease in pollution events.[104]

Environmental regulation has grown ever more comprehensive and sophisticated. EPA administers some two dozen pollution control laws, as well as relevant Executive Orders, and has issued thousands of pages of detailed interpretive regulations pursuant to these laws.[105] Other agencies administer a range of pertinent rules, and states have their own complementary system of regulation.[106] These agencies and states frequently

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[104] *See infra* note 113.

[105] *See* Atomic Energy Act, 42 U.S.C. §§ 2011–2297h-13; Chemical Safety Information, Site Security and Fuels Regulatory Relief Act, Pub. L. No. 106–40, 113 Stat. 211; Clean Air Act, 42 U.S.C. §§ 7401–7671q; Clean Water Act (Federal Water Pollution Control Amendments of 1972), 33 U.S.C. §§ 1251–1387; Comprehensive Environmental Response, Compensation, and Liability Act (Superfund), 42 U.S.C. §§ 9601–75; Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 11004–50; Endangered Species Act, 16 U.S.C. §§ 1531–44; Energy Independence and Security Act, 42 U.S.C. §§ 17001–386; Energy Policy Act, 42 U.S.C. §§ 15801–16538; Federal Food, Drug, and Cosmetic Act, 21 U.S.C. §§ 301–99f; Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136–136y; Food Quality Protection Act, Pub. L. No. 104-170, 110 Stat. 1491; Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act), 16 U.S.C. § 1431–45c-1 and 33 U.S.C. §§ 1441–45; National Environmental Policy Act, 42 U.S.C. §§ 4321–70h; National Technology Transfer and Advancement Act, 15 U.S.C. §§ 3701–22; Noise Control Act, 42 U.S.C. §§ 4901–18; Nuclear Waste Policy Act, 42 U.S.C. §§ 10101–270; Occupational Safety and Health Act, 29 U.S.C. §§ 651–78; Oil Pollution Act, 33 U.S.C. §§ 2701–62; Pollution Prevention Act, 42 U.S.C. §§ 13101–09; Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–92k; Safe Drinking Water Act, 42 U.S.C. §§ 300f–300j-26; Shore Protection Act, 33 U.S.C. §§ 2601–23; Toxic Substances Control Act, 15 U.S.C. §§ 2601–97; Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994): Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; Exec. Order No. 13,045, 62 Fed. Reg. 19,885 (Apr. 23, 1997): Protection of Children from Environmental Health Risks and Safety Risks; Exec. Order No. 13,211, 66 Fed. Reg. 28,355 (May 22, 2001): Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use; *see also* 40 C.F.R. pts. 1–1700.

[106] *See* Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, Appendix II: Federal and Federal-State Agencies with Jurisdiction by Law or Special Expertise on Environmental Quality Issues, 49 Fed. Reg. 49,754-78 (1984) (listing federal agency environmental authorizations); Jonathan H. Adler, *When is Two a Crowd? The Impact of Federal Action on State Environmental Regulation*, 31 HARV. ENVTL. L. REV. 67 (2007) (providing an overview of state environmental regulations).

update, expand, and refine these regulations to improve their effectiveness.[107] By creating incentives for careful environmental performance, environmental enforcement serves an important deterrent function.[108]

In part as a consequence, operating companies increasingly are adopting standardized environmental management systems to assure the integrity of their compliance with environmental rules.[109] Through 2012, the last year for which statistics are available, at least 285,844 ISO 14001:2004 certificates—evidencing compliance with this leading global environmental management standard[110]—had been issued in 167

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[107] The Fall 2013 Regulatory Plan and the Unified Agenda of Regulatory and Deregulatory Actions, for instance, includes a number of on-going regulatory actions that may be pertinent to FHC commodity activities. *See* Annex 1. None of these actions is likely to have the effect of imposing liability on mere owners of physical commodities.

[108] *See* Jay Shimshack, *Monitoring, Enforcement, & Environmental Compliance: Understanding Specific & General Deterrence: State-of-Science White Paper* (Oct. 2007), *available at* http://www.epa.gov/compliance/resources/reports/compliance/research/meec-whitepaper.pdf (prepared for Tufts University under contract in response to EPA RFQ TC0078); Mark A. Cohen, *Empirical Research on the Deterrent Effect of Environmental Monitoring and Enforcement*, 30 ENVTL. LAW 10,245 (Apr. 2000).

[109] *See generally* Position Statement on Environmental Management Systems (EMSs), 71 Fed. Reg. 5664 (Feb. 2, 2006) ("EMSs provide organizations of all types with a structured system and approach for managing environmental and regulatory responsibilities to improve overall environmental performance and stewardship.").

[110] ISO 14001:2004 "specifies requirements for an environmental management system [EMS] to enable an organization to develop and implement a policy and objectives which take into account legal requirements and information about significant environmental aspects." ISO 14001:2004 Introduction, *available at* https://www.iso.org/obp/ui/#iso:std:iso:14001:ed-2:v1:en. The purpose of the standard is to ensure that the EMS will enable the organization "to comply with applicable legal requirements and with other requirements to which the organization subscribes." *Id.* The EMS must identify the organization's activities that may have a significant environmental impact, establish performance objectives, be implemented to achieve those objectives (*e.g.* through employee training), establish a system for taking corrective action, and provide for periodic reviews of the EMS by top management to make any necessary adjustments. EPA, *Environmental Management Systems/ISO 14001*, *available at* http://water.epa.gov/polwaste/wastewater/Environmental-Management-System-ISO-14001-Frequently-Asked-Questions.cfm. "The program also includes a private third-party auditing and certification scheme to verify compliance and implementation." David A. Wirth, *The International Organization for Standards*, 36 B.C. Envtl. Aff. L. Rev. 79, 83 (2009). EPA has stated that properly-implemented EMS programs under this standard "could serve as a valuable tool to help organizations improve their environmental performance, increase the use of pollution prevention, and improve compliance." EPA, *Environmental Management Systems/ISO 14001*, *available at* http://water.epa.gov/polwaste/wastewater/Environmental-Management-System-ISO-14001-Frequently-Asked-Questions.cfm.

countries.[111] This combination of public and private standards and restrictions serve to reduce the risks involved in commodity-related activities in the first instance. Further, when environmental incidents have occurred, industry and government have rapidly responded by studying the events, innovating, and strengthening the regulatory framework to reduce the risk of recurrence.[112]

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[111] *See* Int'l Org. for Standards, *2012 Survey of Management System Standard Certifications*, *available at* http://www.iso.org/iso/iso_survey_executive-summary.pdf.

[112] There are a number of prominent examples of such rapid responses by industry and government. In the wake of the 2013 West Texas fertilizer plant explosion, for example, the President issued an Executive Order calling for, among other things, enhanced coordination among agencies and levels of government, better information sharing, and the promotion of industry best practices—all designed to improve chemical facility safety and security and reduce the risks of future incidents. Exec. Order No. 13650, 78 Fed. Reg. 48,033 (Aug. 1, 2013).

Since the *Deepwater Horizon* incident, a Joint Industry Oil Spill Preparedness and Response Task Force was formed, and the industry has responded further by significantly increasing the level of preparedness and devising self-regulatory structures to improve its safety culture. *See* JOINT INDUS. OIL SPILL PREPAREDNESS AND RESPONSE TASK FORCE, SECOND PROGRESS REPORT ON INDUSTRY RECOMMENDATIONS TO IMPROVE OIL SPILL PREPAREDNESS AND RESPONSE (Nov. 16, 2012), *available at* http://www.api.org/~/media/Files/Oil-and-Natural-Gas/Exploration/Offshore/OSPR-JITF-Project-Progress-Report.pdf. Two industry consortia have developed significant response capabilities, including new high capacity deepwater well blowout containment systems. *See* Marine Well Containment Company website, *available at* https://marinewellcontainment.com/containment.php; Jennifer A. Dlouhy, *Feds, industry workers finish test of emergency offshore equipment*, FUELFIX.COM (May 7, 2013), *available at* http://fuelfix.com/blog/2013/05/07/feds-industry-workers-finish-test-of-emergency-offshore-equipment/.

Likewise, the federal government engaged in an extensive study of the *Deepwater Horizon* incident and completely reformulated the structure of government oversight and regulatory activities in response to the accident – even creating new regulatory agencies. These steps greatly strengthened the system for evaluating, permitting, and overseeing such actions. BP OIL SPILL COMM'N REPORT, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (Jan. 2011) (final report to the President), *available at* http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf; U.S. Dep't of Interior (DOI), Press Release: *Interior Department Completes Reorganization of the Former MMS* (Sept. 30, 2011), *available at* http://www.doi.gov/news/pressreleases/Interior-Department-Completes-Reorganization-of-the-Former-MMS.cfm; Oil Spill Commission Action, *Assessing Progress: Three Years Later* (Apr. 17, 2013), *available at* http://oscaction.org/wp-content/uploads/FINAL_OSCA-No2-booklet-Apr-2013_web.pdf; DOI/Bureau of Ocean Energy Mgmt. (BOEM), Proposed Rule, Oil Spill Financial Responsibility for Offshore Facilities, 1010-AD86; DOI/BOEM, Proposed Rule, Structural Design Requirements for Offshore Renewable Energy Facilities, 1010-AD811; DOI/Bureau of Safety & Environmental Enforcement (BSEE), Proposed Rule, Blowout Prevention Systems, 1014-AA11; U.S. Coast Guard, *Final Action Memorandum - Incident Specific Preparedness Review (ISPR) Deepwater Horizon Oil Spill* (Jan. 2011), *available at* http://www.uscg.mil/foia/docs/DWH/BPDWH.pdf.

In addition, the 2010 natural gas transmission pipeline rupture in San Bruno, California resulted in an extensive regulatory response, including improved oversight, steps to enhance pipeline integrity, and better emergency response practices. *See* U.S. Department of Transportation, Pipeline and Hazardous (….continued)

The existence and enforcement of this body of rigorous pollution control laws, the continual refinement of those laws, careful internal management practices, and well-considered operational changes in response to significant incidents have resulted in improved environmental outcomes and lower risk.[113] These regulations and practices,

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(continued….)

Materials Safety Administration, *PHMSA Actions Taken Related to San Bruno Incident*, *available at* http://opsweb.phmsa.dot.gov/pipelineforum/docs/sanbruno-ca/ACTIONS%20TAKEN%20IN%20RESPONSE%20TO%20SAN%20BRUNO%20INCIDENT%2009%202012.pdf; National Transportation Safety Board, *Pipeline Accident Report, Pacific Gas And Electric Company Natural Gas Transmission Pipeline Rupture and Fire*, PAR-11-01 (Aug. 30, 2011), *available at* http://www.ntsb.gov/investigations/summary/PAR1101.html.

Such responses have resulted in significant improvements in basic equipment as well. After the 1989 *Exxon Valdez* spill, Congress passed the Oil Pollution Act of 1990. One of the provisions of OPA required tank vessels carrying oil in bulk to be "equipped with a double hull" and established a schedule for compliance. 46 U.S.C. § 3703a. OPA required new covered vessels to be equipped with double hulls beginning in 1995 and generally prohibited the operation of single-hulled tankers in U.S. waters after 2010. *Id.* § 3703a(c)(3)(C)(1), (c)(4)(A). Underscoring Congress's concern, this schedule of compliance was "drafted to ensure that the requirement for double hulls or double containment systems be implemented as quickly as possible," taking into account the need of operators to replace their existing fleets. H.R. Rep. 101-653 at 141 (1990) (Conf. Rep.). The Coast Guard is responsible for implementing these statutory requirements, and has promulgated a set of implementing regulations. 33 C.F.R. § 157.10d. The adoption by the United States of these double hull requirements helped lead to the amendment in 1992 of MARPOL, the main international treaty regulating pollution by ships, to impose similar double hull standards. *See* IMO, Construction Requirements for Oil Tankers (2014), *available at* http://www.imo.org/OurWork/Environment/PollutionPrevention/OilPollution/Pages/constructionrequirements.aspx; Elizabeth Galiano, In the Wake of the PRESTIGE Disaster, 28 Tul. Mar. L.J. 113, 120 (2004) (noting that "U.S. pressure in the wake of the Exxon Valdez spill" led to the 1992 MARPOL amendment).

[113] For example, notwithstanding dramatic events such as the *Deepwater Horizon* incident, the number and severity of oil spills have dramatically decreased over the last several decades. *See* Jonathan Ramseur, *Oil Spills in U.S. Coastal Waters: Background, Governance, and Issues for Congress*, at 2 (Feb. 5, 2008), *available at* http://edocs.dlis.state.fl.us/fldocs/oilspill/federal/79721884.pdf ("During the past two decades, while U.S. oil imports and consumption have steadily risen, oil spill incidents and the volume of oil spilled have not followed a similar course. In general, the annual number and volume of oil spills have shown declines—in some cases, dramatic declines."). The mandatory move to double-hulled oil tankers in the wake of the *Exxon Valdez* and *Erika* events, *see supra* note 112, has produced a dramatic drop in spills from shipments of oil by sea. Despite an increase in seaborne oil trade since 1990, the number of tanker spills releasing greater than seven tons of oil has consistently declined. Int'l Tanker Owners Pollution Fed'n Ltd., *Oil Tanker Spill Statistics*, Fig. 8 (2014), *available at* http://www.itopf.com/information-services/data-and-statistics/statistics/. Part of this decrease is attributable to the use of double-hulled tankers. A 2001 simulation analysis found that the use of double hulls reduced the number of spills in simulated instances of collision or grounding between fifty-four percent and sixty-seven percent for the tanker types studied. Trans. Res. Bd., Environmental Performance of Tanker Designs in Collision and Grounding 80 (2001), *available at* http:// onlinepubs.trb.org/onlinepubs/sr/sr259.pdf. When spills do occur, double-hulled tankers release less oil: a recent study examining Coast Guard oil spill data found that the use of double hulls "reduces the size of oil spills by tanker ship accidents by 62% and that for tank-barge accident oil spills by 20%." Yip, *The effectiveness of double hulls in reducing accident spillage*, (….continued)

combined with the safeguards developed to avoid liability under environmental statutes and doctrines as described above, effectively limit the environmental liability risk of an FHC group to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards.

(continued….)

Mar. Pol. Bull. 2427, 2432 (2011), *available at* http://bpa.odu.edu/port/research/The%20effectiveness%20of%20double%20hulls%20in%20reducing%20vessel-accident%20oil%20spillage.pdf.

Similarly, while incidents have continued to occur, the frequency of serious pipeline accidents involving hazardous materials appears to be decreasing. *See* Pipeline & Hazardous Materials Safety Admin., U.S. Dep't of Trans., *Serious Pipeline Incidents* (Mar. 4, 2014), http://primis.phmsa.dot.gov/comm/reports/safety/serpsi.html?nocache=6195#_ngtrans (showing that the number of serious incidents for all pipelines and serious gas transmission pipeline incidents have decreased from 1994 to 2013); U.S. Dep't of Trans., Research and Special Programs Admin., Hazardous Liquid Pipeline Accidents Caused by Excavation Damage in 1991–2002 (Oct. 9, 2003), http://www.viadata.com/pipeliner/ library_ docs/mccainhearing.pdf (showing that the number of hazardous liquid pipeline accidents by excavation decreased from the early 1990s to early 2000s and the number of pipeline safety programs increased during that time period).

The same is true of railroad accidents. *See* Ass'n of Am. R.R.s, *Hazardous Materials Transportation* (2014), https://www.aar.org/safety/ Pages/Hazardous-Materials-Transportation.aspx ("Railroads have a strong record for safely moving hazardous materials (hazmat) with 99.9977 percent of all shipments reaching their destination without a release caused by an accident. . . . . [R]ailroads have lowered hazmat accident rates by 91 percent since 1980, and 38 percent since 2000."); Ass'n of Am. R.R.s, *AAR Celebrates Rail Industry's Safest Year on Record* (Mar. 11, 2013), https://www.aar.org/newsandevents/Press-Releases/Pages/AAR-Celebrates-Rail-Industrys-Safest-Year-On-Record.aspx ("Overall, 2012 set a new record for railroad safety, breaking the previous record set in 2011, which in turn broke the record set in 2010. In 2012, compared to 2011, the train accident rate per million train miles was down 19 percent, the employee casualty rate was down 9 percent and the grade crossing collision rate was down 8 percent. . . . According to [Federal Railroad Administration] data, from 1980 to 2012 the U.S. train accident rate fell 80 percent and the U.S. rail employee injury rate fell 85 percent. Since 2000, the declines have been 45 percent and 52 percent, respectively. Train collisions per million train-miles have dropped 87 percent since 1980 and 36 percent since 2000.").

In addition, there has been a significant decrease in toxic chemical releases in recent years. *See* EPA, *EPA's 2012 Toxics Release Inventory Shows Air Pollutants Continue to Decline* (Feb. 4, 2014), http://yosemite.epa.gov/opa/admpress.nsf/0/c03aa561818a975b85257c750059ae65?OpenDocument ("Total releases of toxic chemicals decreased 12 percent from 2011-2012. . . . The decrease includes an eight percent decline in total toxic air releases, primarily due to reductions in hazardous air pollutant (HAP) emissions."); STEVEN F. HAYWARD, *Environmental Trends, Toxic Chemicals and Other Environmental Health Risks*, 2011 ALMANAC OF ENVTL. TRENDS (2011), http://www.environmentaltrends.org/fileadmin/pri/documents/2011/ToxicChemicals.pdf (showing a sixty-five percent reduction in releases of the 225 core chemicals tracked by EPA between 1988 and 2008).

II. Well-Established Doctrines of Corporate Separateness Protect FHC Groups from Liability for Investments in Enterprises that Engage in Environmentally Sensitive Activities.

In the ANPR, the Board points to the risk of an FHC being held responsible for the acts or liabilities of a subsidiary, portfolio company, or other investee in circumstances where the legal separation between the subsidiary and the FHC is disregarded. FHCs that adopt and adhere to appropriate policies and procedures designed to ensure corporate separateness should face minimal risks from investments in subsidiary enterprises that engage in any environmentally sensitive activities under "veil-piercing" or similar legal theories.

It is a bedrock principle of corporate law that stockholders are not liable for the obligations of a corporation.[114] Indeed, the law permits the use of a corporation for the very purpose of enabling its owners to escape personal liability.[115] This fundamental tenet applies in all corporate ownership structures, including circumstances where the corporation is wholly owned.[116] It applies whether the underlying liability arises from a contract claim or a tort claim,[117] and whether the claimant is an individual, an enterprise, or a governmental body.[118]

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[114] *Lowendahl v. Baltimore & Ohio R.R. Co*., 287 N.Y.S. 62, 72, 247 A.D. 144, 154 (1st Dep't 1936), *aff'd*, 272 N.Y. 360 (1936).

[115] *Itel Containers Int'l Corp.* v. *Atlanttrafik Exp. Serv. Ltd.*, 909 F.2d 698, 704 (2d Cir. 1990); *Walkovszky v. Carlton*, 18 N.Y.2d 414, 417, 276 N.Y.S.2d 585, 587, 223 N.E.2d 6, 7 (1966).

[116] *Horowitz v. Aetna Life Ins*., 539 N.Y.S.2d 50, 53, 148 A.D.2d 584, 586 (2d Dep't 1989).

[117] *See, e.g.*, *Itel Containers*, 909 F.2d at 698 (contract claim); *Walkovszky*, 18 N.Y.2d at 414 (tort claim).

[118] *Lowendahl*, 287 N.Y.S. at 64, 247 A.D. at 146 (individual claimant); *Itel Containers*, 909 F.2d at 700 (enterprise claimant); *Matter of Morris v. N.Y. State Dep't of Taxation & Fin.*, 82 N.Y.2d 135, 138, 603 N.Y.S.2d 807, 808, 623 N.E.2d 1157, 1158 (1993) (governmental body claimant).

An exception to the limited liability of stockholders arises when a court decides to "pierce the corporate veil." The veil-piercing jurisprudence is almost entirely based on common law rather than statutory provisions, and, as a result, the standards for applying the doctrine may vary from jurisdiction to jurisdiction. Nonetheless, there are well-established practices that stockholders and other investors can follow to strengthen the corporate separateness of the stockholder and the corporation and minimize any risk that the corporate veil will be pierced.

This Part analyzes the doctrine of corporate separateness under the laws of New York, which is the leading state for the adjudication of commercial disputes, and Delaware, which is the state of incorporation of most large U.S. corporations and is commonly used by FHCs to form their subsidiaries.[119]

A. New York Veil-Piercing Jurisprudence

In New York, piercing the corporate veil generally requires a showing that (i) the stockholder exercised complete domination of the corporation with respect to the action involved, and (ii) that such domination was used to commit a fraud or wrong against the plaintiff that resulted in the plaintiff's injury.[120] Importantly, even where domination and

[119] Most U.S. states follow the "internal affairs doctrine" and look to the law of the state of incorporation of the subject corporation for the applicable principles that would apply in a veil-piercing analysis. *See* John H. Matheson, *The Modern Law of Corporate Groups: An Empirical Study of Piercing the Corporate Veil in the Parent-Subsidiary Context*, 87 N.C. L. REV. 1091, 1096 (2009) (discussing the internal affairs doctrine in the context of veil-piercing claims brought against U.S. entities with foreign parents). This is not the universal conflict of laws principle in this context. However, it is likely that a relationship that is structured to withstand veil piercing in New York and Delaware would also be respected in most, if not all, states. *See id*. at 1112 (surveying veil-piercing cases in various states and identifying certain factors regularly cited by the courts in those cases).

[120] *Cobalt Partners, L.P. v. GSC Capital Corp.*, 944 N.Y.S.2d 30, 33, 97 A.D.3d 35, 40 (1st Dep't 2012) (quoting *Morris*, 82 N.Y.2d at 141); *East Hampton Union Free Sch. Dist. v. Sandpebble Builders, Inc*., 994 N.Y.S.2d 94, 98, 66 A.D.3d 122, 126 (2d Dep't 2009).

control are found, veil-piercing generally will not occur unless the plaintiff shows that the domination led to inequity, fraud, or malfeasance.[121]

Domination in the context of a veil-piercing claim does not mean mere control. Rather, it means an extraordinary level of control. Indeed, "[l]iability must depend upon a domination and control so complete that the corporation may be said to have no will, mind or existence of its own and to be operated as a mere department of the business of the stockholder."[122] This domination is sometimes characterized as the stockholder treating the corporation as its own "instrumentality"[123] or its "alter ego."[124]

As a result of this high threshold, domination sufficient to trigger veil-piercing is not easily found. For example, the court in *Director's Guild of America* v. *Garrison*

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[121] *TNS Holdings v. MKI Sec. Corp.*, 92 N.Y.2d 335, 339, 680 N.Y.S.2d 891, 893, 703 N.E.2d 749, 751 (1998); *see also* Matheson, *supra* note 119, at 1127, 1129 (stating that "courts have refused to adopt unlimited parental liability based solely on extraordinary control or domination" and "where fraud or misrepresentation is not found, courts refused to pierce in more than nine out of ten cases, irrespective of the presence of other factors"); *Freeman v. Complex Computing Co., Inc.*, 119 F.3d 1044, 1053 (2d Cir. 1997) (stating that, in New York, "the element of domination and control never was considered to be sufficient of itself to justify the piercing of a corporate veil").

[122] *Lowendahl*, 287 N.Y.S. at 73, 247 A.D. at 154.

[123] The "instrumentality" doctrine cited by some New York courts generally involves a three-factor test. As set forth in *Lowendahl*, the three factors include: (i) control, not merely majority or complete stock control, but to such an extent (in disregard of the subsidiary's corporate paraphernalia, directors, and officers) that the subsidiary has become a mere instrumentality or department of the parent's own business and the parent is the true actor in the transaction attacked, or where the business and officers of the two corporations are so intertwined that it is impossible or impracticable to identify the corporation that participated in that transaction; (ii) such control has been used by the parent to commit fraud or wrong, to perpetrate the violation of a statutory or other positive legal duty, or a dishonest and unjust act in contravention of the plaintiff's legal rights; and (iii) the aforesaid control and breach of duty must proximately cause the injury or unjust loss complained of. *Id.* at 76, 247 A.D. at 157.

[124] The "alter ego" doctrine cited by some New York courts is slightly different in formulation from the instrumentality doctrine, but its effect is substantially the same. In determining whether a subsidiary is the alter ego of its parent, courts generally look to whether the subsidiary has been so dominated by its parent, and its separate identity so disregarded, that it primarily transacted the dominator's business rather than its own and can be called the parent's "alter ego." *William Passalacqua Builders, Inc. v. Resnick Developers South, Inc.*, 933 F.2d 131, 138 (2d Cir. 1991) (applying New York law) (quoting *Gartner v. Snyder*, 607 F.2d 582, 586 (2d Cir. 1979)). As noted above, "the control must be used to commit a fraud or other wrong that causes plaintiff's loss." *Id.*

Productions, Inc. found the requisite domination and control where the defendant, *inter alia*, "controlled every asset, made all major decisions with respect to the funding of the corporation, and treated the corporation as his own instrumentality[.]"[125] Likewise, in *888 7th Avenue Associates Limited Partnership v. Arlen Corp*., sufficient domination and control was pled in allegations that the parent incorporator and sole owner of an undercapitalized subsidiary shared common officers and directors with the subsidiary, and exercised free access to the subsidiary's bank accounts for payment of its own salaries and operating expenses, as well as those of other affiliates.[126] By contrast, where courts have found that domination and control were not present, they have almost universally refused to pierce the corporate veil.[127]

The court in *William Passalacqua Builders*, *Inc. v. Resnick Developers South, Inc.* set forth a number of factors for determining whether the requisite level of domination

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[125] 733 F. Supp. 755, 762 (S.D.N.Y. 1990) (applying New York law). In *Director's Guild of America*, the defendant individual contributed ninety-nine percent of the production corporation's cash capital; eventually became the sole shareholder; had board veto power; advanced and authorized all funds (ultimately on a daily basis) for the corporation to meet its obligations, thereby deliberately undercapitalizing the corporation; and ultimately made the decision not to pay the award amount or wages at issue. In addition, the court found that the defendant operated the production corporation with little regard for corporate formalities. He often bypassed the corporation to pay creditors directly, and the corporation had no minutes or records of corporate meetings or records of directors authorizing significant events. *Id.* at 760–61.

[126] 569 N.Y.S.2d 16, 17, 172 A.D.2d 445, 445 (1st Dep't 1991) (affirming lower court's order denying defendant's motion to dismiss a veil-piercing claim).

[127] Matheson, *supra* note 119, at 1124–25 ("[I]f no control or dominance was found, the courts almost literally refused to pierce the corporate veil, absolving the parent from liability in 97.9% of the cases."); Robert B. Thompson, *Piercing the Corporate Veil: An Empirical Study*, 76 CORNELL L. REV. 1036, 1065 (1991) (finding that, when courts noted an absence of domination and control, they refused to pierce the corporate veil in 99.4 percent of the cases). Empirical studies such as these include some useful information, but most of the information that they contain is not instructive because they reflect the outcomes of lawsuits, such as those involving individual owners of small enterprises, that bear no similarity to the scenarios faced by sophisticated institutions, such as FHCs. *See* Matheson, *supra* note 119, at 1091 ("Courts seldom pierce the subsidiary's corporate veil and do so much less often than in the overall universe of piercing cases, including the classic case of a small business with one or a few individual owners.").

exists to support a veil-piercing claim.[128] These factors, which are often cited by New York courts, include:

> (1) the absence of the formalities and paraphernalia that are part and parcel of the corporate existence, *i.e.*, issuance of stock, election of directors, keeping of corporate records and the like, (2) inadequate capitalization, (3) whether funds are put in and taken out of the corporation for personal rather than corporate purposes, (4) overlap in ownership, officers, directors, and personnel, (5) common office space, address and telephone numbers of corporate entities, (6) the amount of business discretion displayed by the allegedly dominated corporation, (7) whether the related corporations deal with the dominated corporation at arms length, (8) whether the corporations are treated as independent profit centers, (9) the payment or guarantee of debts of the dominated corporation by other corporations in the group, and (10) whether the corporation in question had property that was used by other of the corporations as if it were its own.[129]

No single factor is determinative, and courts weigh all of the available facts to determine whether liability should be imposed.

These factors were applied in the environmental context in the litigation stemming from an environmental disaster in Bhopal, India. In *Sahu* v. *Union Carbide Corp.*,[130] the plaintiffs sought monetary damages and medical monitoring from defendant Union Carbide Corporation ("UCC") for injuries caused by UCC's subsidiary, Union Carbide India Limited ("UCIL"), in Bhopal.[131] Applying New York law, the *Sahu* court found that there was no allegation or evidence that any domination by UCC over UCIL was effected for the purpose of committing a fraud or wrong against the plaintiff, and

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[128] 933 F.2d at 139.

[129] *Id.*

[130] No. 04 Civ. 8825 JFK, 2012 WL 2422757, at *1 (S.D.N.Y. 2012), *aff'd*, 528 Fed. App'x. 96 (2d Cir. 2013).

[131] Specifically, the plaintiffs alleged that UCIL's pesticide manufacturing plant leaked hazardous waste, which polluted the soil and drinking water in the residential communities surrounding the plant's site. *Id.* at *3.

thus held that, even if such domination existed, piercing the corporate veil was inappropriate.[132] The court also considered whether UCC dominated UCIL and found that there was a "marked lack of evidence of domination" under the factors set out in *Passalacqua*.[133]

First, in considering the capitalization factor, the court found that the subsidiary was an independent going concern with adequate capitalization and assets, notwithstanding the plaintiffs' claim that the subsidiary had lost approximately one-third of its value and would be unable to pay class damages.[134] The court emphasized that the subsidiary's inability to pay a specific dollar amount of future damages was not relevant to the veil-piercing analysis; rather, the subsidiary's financial status was material only to the extent that it shed light on the subsidiary's legitimacy as a corporation.[135]

Second, the court found that, even assuming that UCC approved the strategic plan for the Bhopal plant, "nothing . . . [in the record] indicates that UCC controlled every step UCIL took at Bhopal to implement that strategy."[136] The court indicated, "it is entirely appropriate for a parent corporation to approve major expenditures and policies involving

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[132] *Id*. at *21

[133] *Id.*

[134] *Id.* at *19.

[135] *Id*. *See also Matter of Multiponics, Inc.*, 622 F 2d. 709, 717 (5th Cir. 1980) ("Generally [the court] look[s] to initial capitalization, asking whether a company was adequately capitalized at the time of its organization."); WILLIAM MEADE FLETCHER, FLETCHER CYCLOPEDIA OF THE LAW OF CORPORATIONS, § 41.33 (rev. vol. 2013) ("A corporation that was adequately capitalized when formed but subsequently suffers financial reverses is not undercapitalized.").

[136] 2012 WL 2422757, at *20.

the subsidiary, and for employees of the parent and subsidiary corporations to meet periodically to discuss business matters."[137]

Third, the court found that the similarity in workplace safety standards, equipment, and design between UCIL and a U.S. plant of UCC in no way implied that UCC micromanaged or controlled design and operations in Bhopal. Rather, according to the court, these similarities were the natural result of an arm's-length design purchase agreement between the two entities; this and other arm's-length contractual arrangements between the two entities were not indicative of domination by UCC.[138]

The corporate separateness principle that protected UCC in *Sahu* also protects financial investors. In *Capmark Financial Group Inc. v. Goldman Sachs Credit Partners L.P.*, for example, the court declined to pierce the corporate veil between Goldman Sachs entities that had invested in Capmark, a debtor that had entered bankruptcy, and other Goldman Sachs entities that were lenders to Capmark.[139] Applying an identical analysis under applicable New York, Delaware, and Nova Scotia law, the court held that there was no evidence of "complete domination and control" or that the Goldman Sachs entities (including their shared corporate parent) had neglected the formalities of corporate separateness, such as by commingling funds or inadequately capitalizing a

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[137] *Id*. (quoting *Fletcher v. Atex*, *Inc*., 861 F. Supp. 242, 245 (S.D.N.Y. 1994), *aff'd*, 68 F.3d 1451 (2d Cir. 1995)). Notably, the standard articulated by the court for appropriate parent involvement closely tracks the standards articulated by the Board for FHC involvement in investee company affairs under the merchant banking regulations. *See* 12 C.F.R. § 225.171(d)(2) (permitting an FHC to retain approval or consultation rights over, *inter alia*, the acquisition by an investee of significant assets or control of another company, as well as significant changes to the investee's business plan). The practices and restrictions mandated by the Board's merchant banking regulations, as discussed below, significantly limit the risk of veil-piercing, including in the commodities context.

[138] *Sahu*, 2012 WL 2422757, at *21.

[139] 491 B.R. 335 (S.D.N.Y. 2013).

subsidiary.[140] Rather, the Goldman entities had acted in ways typical of a shareholder or parent corporation that do not trigger veil-piercing liability even when the parent and subsidiary share officers, directors, and employees.[141] The court also indicated that even if there had been control or domination, the Goldman entities were not "sham" entities incorporated to perpetrate a fraud or injustice, and that veil-piercing would therefore not be appropriate.[142]

As these cases indicate, the high threshold for demonstrating domination and control, combined with the additional requirement that such domination and control be effected for the purpose of committing a fraud or wrong, make it highly unlikely that an FHC adhering to appropriate corporate separateness guidelines would be found liable for the actions or liabilities of a subsidiary under New York law.

B. Delaware Veil-Piercing Jurisprudence

As in New York, Delaware courts do not easily disregard corporate separateness to hold a parent liable for the actions of its subsidiary.[143] In general, Delaware courts will not pierce the corporate veil unless (i) fraud in the use of the corporate form is present,[144] or (ii) the parent exerts exclusive domination and control such that the subsidiary

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[140] *Id.* at 349.

[141] *Id.* at 349–50.

[142] *Id.* at 350.

[143] *See, e.g.*, *Harco Nat'l Ins. Co. v. Green Farms Inc.*, CIV. A. No. 1131, 1989 WL 110537, at *5 (Del. Ch. 1989) ("It should be noted at the outset that persuading a Delaware Court to disregard the corporate entity is a difficult task.").

[144] *See Irwin & Leighton, Inc. v. W.M. Anderson Co.*, 532 A.2d 983, 987 (Del. Ch. 1992) ("The protection offered by the corporate form, however, is not absolute; equity has long acted to extend a corporate liability to those in control of the corporation in appropriate circumstances. The paradigm instance involves the use of a corporate form to perpetrate a fraud.").

becomes a "mere instrumentality" or "alter ego" of the parent.[145] Delaware courts have not made a clear distinction between the terms "mere instrumentality" and "alter ego,"[146] but to succeed on either type of claim, the plaintiff must show that (i) the parent and subsidiary operated as a single economic entity, and (ii) an element of injustice or unfairness is present.[147] Factors cited by Delaware courts in assessing such claims are similar to those cited by New York courts, and include:

> whether the corporation was adequately capitalized for the corporate undertaking; whether the corporation was solvent; whether dividends were paid, corporate records kept, officers and directors functioned properly, and other corporate formalities were observed; whether the dominant shareholder siphoned corporate funds; and whether, in general, the corporation simply functioned as a facade for the dominant shareholder.[148]

Accordingly, the same actions that limit the risk of veil-piercing in New York will also limit the risk of veil-piercing in Delaware.[149]

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[145] *Geyer v. Ingersoll Publ'ns Co*., 621 A.2d 784, 793 (Del. Ch. 1992); *Commerce Indus., Inc. v. MWA Intelligence, Inc.*, C.A. No. 7471-VCP, 2013 WL 5621678, at *27 (Del. Ch. 2013).

[146] *See, e.g., Mabon, Nugent & Co.* v. *Tex. Am. Energy Corp.*, CIV. A. No. 8578, 1990 WL 44267, at *5 (Del. Ch. 1990) ("In the present case, the question of whether TAO was TAE's alter ego or mere instrumentality may be restated to be whether TAO and TAE operated as a single economic entity such that it would be inequitable for this Court to uphold a legal distinction between them.").

[147] *Harper v. Del. Valley Broadcasters, Inc.*, 743 F. Supp. 1076, 1085 (D. Del. 1990) (citing *Mabon*, 1990 WL 44267, at *5), *aff'd*, 932 F.2d 959 (3d Cir. 1991).

[148] *Harco*, 1989 WL 110537, at *4 (quoting *Golden Acres, Inc*., 702 F. Supp. at 1104).

[149] *See, e.g.*, *LaCourte v. JP Morgan Chase & Co.*, 12 Civ. 9453 (JSR), 2013 WL 4830935, at *6-7 (S.D.N.Y. Sept. 4, 2013) (dismissing veil-piercing claims against a nonbank subsidiary of an FHC under Delaware law where the plaintiff did not allege facts sufficient to show "complete domination" by the nonbank subsidiary of its own subsidiary, but only that the parent "controlled its subsidiaries in routine ways," and the plaintiff failed to allege that it was defrauded by an abuse of the corporate form; and dismissing veil-piercing claims against the FHC itself for the same reasons); *see also id.* at *6 n.2 (noting that "New York and Delaware veil-piercing law do not materially differ"). In addition, cases cited in the ANPR, 79 Fed. Reg. at 3335 nn. 67 & 68, demonstrate that entities that observe the appropriate formalities and avoid committing fraud do not face a material risk of veil-piercing in other jurisdictions, such as Rhode Island. *See Miller v. Dixon Indus. Corp.*, 513 A.2d 597, 604–05 (R.I. 1986) (holding that separate corporate identities had to be respected in the absence of "inequity, fraud, undercapitalization, or domination" by the parent corporation); *R & B Elec. Co., Inc. v. Amco Constr. Co., Inc.*, 471 A.2d 1351, 1354 (R.I. 1984) (holding that the corporate veil should not be pierced when there was no "deception, fraud, or other wrongdoing" by the companies, and no evidence suggesting that legal formalities were not (….continued)

In addition, while the discussion above focuses on veil-piercing jurisprudence in the context of corporations, it is important to note that the same principles apply to limited liability companies in those jurisdictions.[150]

C. Veil-Piercing in the Context of Environmental Statutes

In the context of environmental laws such as CERCLA, courts apply the same veil-piercing analysis that they use in other traditional contexts. The Supreme Court held in *Bestfoods* that, under the "deeply ingrained" principle that a parent corporation is not liable for the acts of its subsidiaries, veil-piercing is the exception rather than the rule:

> It is a general principle of corporate law deeply ingrained in our economic and legal systems that a parent corporation (so-called because of control through ownership of another corporation's stock) is not liable for the acts of its subsidiaries. . . . Thus, it is hornbook law that the exercise of the control which stock ownership gives to the stockholders . . . will not create liability beyond the assets of the subsidiary. That control includes the election of directors, the making of by-laws . . . and the doing of all other acts incident to the legal status of stockholders. Nor will a duplication of some or all of the directors or executive officers be fatal. . . . Although this respect for corporate distinctions when the subsidiary is a polluter has been severely criticized in the literature, nothing in CERCLA purports to reject this bedrock principle, and against this venerable common-law backdrop, the congressional silence is audible.[151]

Based on these principles, the Supreme Court held that "when (but only when) the corporate veil may be pierced, may a parent corporation be charged with derivative

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(continued….)
observed or that the corporation was "merely a sham behind which its shareholders conducted their personal affairs").

[150] *See*, *e.g.*, *Colonial Sur. Co. v. Lakeview Advisors, LLC*, 941 N.Y.S.2d 371, 373, 93 A.D.3d 1253, 1255 (4th Dep't 2012) (stating that "[i]t is well settled that 'the doctrine of piercing the corporate veil . . . applies to limited liability companies'" (internal citations omitted)); *Trs. of Vill. of Arden v. Unity Constr. Co.*, No. C.A. 15025, 2000 WL 130627, at *3 (Del. Ch. 2000) (applying corporate veil-piercing analysis in order to dismiss plaintiff's claim that two Delaware LLCs were alter egos of each other).

[151] 524 U.S. at 61–62 (citations omitted).

CERCLA liability for its subsidiaries' actions."[152] Thus, the potential that an FHC will be held liable under CERCLA or other environmental statutes for the environmental obligations of its subsidiaries, portfolio companies, or other investees under a corporate veil-piercing analysis should be no greater than its potential for veil-piercing in other traditional common law contexts.[153]

Since *Bestfoods*, courts have consistently applied standard veil-piercing analysis to determine whether a parent entity is indirectly liable under CERCLA. For example, in *United States v. Friedland*, a group of potentially responsible parties to a cost recovery action filed cross-claims against a parent entity, alleging that it was liable for CERCLA violations stemming from the disposal of waste by its subsidiary.[154] The court applied Colorado veil-piercing law and held that the plaintiff had not met its burden of demonstrating that the corporate veil should be pierced, even though (i) the parent had majority stock ownership of the subsidiary; (ii) the parent and subsidiary shared an officer and two directors; and (iii) there was a dispute as to whether certain officers of the subsidiary, who were employees of the parent, acted independently in the interest of the subsidiary or took directives from the parent.[155] Because the other relevant factors

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[152] *Id*. at 63.

[153] *Bestfoods* also noted that courts are divided as to whether state law or a federal common law of veil-piercing should apply with respect to indirect liability under CERCLA. *Id.* at 63 n.9. The Court did not decide the question, *id.*, and courts remain divided in their approaches. *See New York v. Nat'l Servs. Indus., Inc.*, 460 F.3d 201, 207–08 (2d Cir. 2006) (describing rulings in different circuits).

[154] 173 F. Supp. 2d 1077 (D. Colo. 2001).

[155] *Id*. at 1092–93.

supported corporate separateness, the court did not allow the veil-piercing claims to proceed to impose derivative liability on the parent entity.[156]

Courts also apply the *Bestfoods* veil-piercing analysis in the context of other environmental statutes, such as the Clean Water Act and the Oil Pollution Act. In *United States v. Viking Resources, Inc.*, for instance, the court held that the *Bestfoods* analysis concerning corporate separateness applies in the context of OPA.[157] Likewise, the court in *In re Appalachian Fuels, LLC* applied *Bestfoods* to indirect liability claims under the Clean Water Act and Surface Mining Control and Reclamation Act, as well as to statutory claims under state law.[158]

Because courts apply the same veil-piercing analysis with respect to environmental liability as they do with respect to other types of liability, the policies and procedures that FHCs use to maintain corporate separateness in general are equally effective at shielding FHCs from derivative environmental liability.

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[156] *Id*. at 1093. In particular, in granting summary judgment to A.O. Smith, the parent company, on the derivative liability claims, the court found no evidence that (i) A.O. Smith financed SCMI, the subsidiary, other than certain loans made (which did not appear improper); (ii) A.O. Smith caused SCMI's incorporation; (iii) SCMI was grossly undercapitalized; (iv) A.O. Smith generally paid the salaries, expenses, or losses of SCMI; (v) SCMI had substantially no business that except with A.O. Smith or no assets except those conveyed to SCMI by A.O. Smith; (vi) SCMI was referred to as a department or division of A.O. Smith; or (vii) A.O. Smith did not observe the formalities of legal separateness with respect to SCMI. *Id.*

[157] 607 F. Supp. 2d 808, 823 (S.D. Tex. 2009). The court in *Viking Resources* held that there was a genuine issue of material fact as to whether to pierce the corporate veil and hold the individual shareholder responsible for the company's OPA liability. *Id.* at 824. Notably, the shareholder admitted that he often did not carry out corporate formalities for the company, did not maintain records to document the formalities that he did carry out, and used the company's checking account to pay personal expenses. *Id.* at 823–24. This case demonstrates one potential veil-piercing scenario, but the defendant's failure to take even rudimentary steps to avoid veil-piercing renders it inapposite to the situations that arise when FHCs make investments.

[158] 493 B.R. 1, 17 (6th Cir. BAP 2013).

D. Application to Merchant Banking Investments

In the case of investments made by FHCs and their non-IDI affiliates under the merchant banking authority, the Board's regulations already prescribe certain corporate formalities, limiting any risk of piercing the corporate veil between an FHC or any of its non-IDI affiliates and any of its portfolio companies. Indeed, the regulations require that FHCs "[e]nsure the maintenance of corporate separateness between the [FHC] and each company in which the [FHC] holds an interest under this subpart and protect the [FHC] and its depository institution subsidiaries from legal liability for the operations conducted and financial obligations of each such company[.]"[159] Accordingly, the Board conducts examinations of FHCs to ensure that they maintain corporate separateness through policies, procedures, records, and systems.[160]

In addition, merchant banking investments may be held by an FHC or its non-IDI affiliates only for a period of time that enables the sale or disposition of the investment on a reasonable basis consistent with the financial viability of merchant banking investment activities.[161] As such, they represent investments that should be held separate and apart from an FHC's core business, thus limiting the risk that the corporate veil will be pierced.

Section 4(k)(4)(H) of the Bank Holding Company Act and its implementing regulations set forth in Subpart J of Regulation Y impose limitations on participation by the FHC or its other subsidiaries in routinely managing or operating portfolio companies.

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[159] 12 C.F.R. § 225.175(a)(iv).

[160] *See* Bank Holding Company Supervision Manual § 3907.0.7.1; *see also* Supervision and Regulation Letter 00-9, "Supervisory Guidance on Equity Investment and Merchant Banking Activities" (June 22, 2000).

[161] 12 C.F.R. § 225.172(a).

These regulations clarify that director interlocks with the portfolio company and certain types of agreements and covenants that affect only extraordinary corporate events would not, as a general matter, be considered routine management or operation and so would be permitted in most circumstances.[162] They provide that an FHC or any of its affiliates would be considered to be engaged in routinely managing or operating a portfolio company if (i) the FHC or such affiliate establishes certain interlocks at the officer or employee level of the portfolio company or (ii) has certain other arrangements involving day-to-day management or participation in ordinary course business decisions.[163] An FHC or its affiliate will be permitted to manage the routine affairs of, or operate, a portfolio company, only when this is necessary to address a material risk to the value or operation of the portfolio company (for example, in the event of a significant operating loss or departure of senior management).[164] This involvement must be temporary, and last only for the time necessary for the FHC or its affiliate to address the cause of involvement, obtain suitable alternative management arrangements, dispose of the investment, or otherwise obtain a reasonable return on the investment.[165] Generally, an FHC would be required to provide the Board written notice before engaging, or allowing

[162] *Id.* § 225.171(d).

[163] *Id.* § 225.171(b).

[164] *Id.* § 225.171(e).

[165] *Id.* § 225.171(e)(2). To the extent an FHC takes advantage of this limited authority to manage the routine affairs of a portfolio company, the FHC will need to tailor its day-to-day involvement to limit the environmental risk presented by the portfolio company, depending on the magnitude of the risk involved.

an affiliate to engage, in routine management or operation of the portfolio company for a period greater than nine months.[166]

These limitations on merchant banking activities should limit the possibility of an FHC being held responsible for the liabilities of an investee under a veil-piercing theory to a level consistent with each FHC's risk tolerance, as established by its board of directors, and its risk management framework, each of which is subject to the Federal Reserve's supervision and examination and safety and soundness standards. Further, these limitations may be combined with policies that are traditionally used to promote corporate separateness, as described below and in Appendix C.

E. Effective Policies and Procedures

Pursuant to the applicable legal framework, and in accordance with the requirements and limitations of the merchant banking authority, there are numerous safeguards that FHCs can implement to manage veil-piercing risks effectively. Like many risks faced by FHCs, the risk of liability in these circumstances must be understood and addressed through appropriate policies and procedures.

Appendix C contains a description of a range of policies and procedures, which are consistent with the restrictions on exercising control over routine management of a merchant banking investee, and which may be appropriate to apply depending on the FHC's assessment of the risks arising from the circumstances of an investment. Investment guidelines that promote the safeguards listed in Appendix C, if followed, maximize the likelihood that courts will not deviate from longstanding corporate law tradition and will continue to respect the corporate veil between FHCs and their portfolio

[166] *Id.* § 225.171(e)(3).

companies and other investees. FHCs have every incentive to adopt appropriate policies, and indeed, we are not aware of any case in New York or Delaware where an FHC has been held liable for the debts or other liabilities of a subsidiary as a result of a court piercing the corporate veil.

ANNEX 1

Regulatory Actions

The following are ongoing regulatory actions, drawn from the Fall 2013 Regulatory Plan and the Unified Agenda of Regulatory and Deregulatory Actions, that may be pertinent to FHC commodity activities.[1]

- Department of Interior/ Bureau of Land Management ("DOI/BLM"), Proposed Rule, Onshore Oil and Gas Order 3: Site Security on Federal and Indian Oil and Gas Leases, 1004-AE15 (NPRM: 8/14)

- DOI/BLM, Final Rule, Hydraulic Fracturing, 1004-AE26 (Final Action: 5/14)

- DOI/BLM, Final Rule, Oil Shale Management, 1004-AE28 (Final Action: 5/14)

- Department of Interior/ Bureau of Ocean Energy Management ("DOI/BOEM"), Pre-rule, Restructuring of Bonding and Financial Assurance Regulations, 1010-AD83 (ANPRM: 11/13)

- DOI/BOEM, Proposed Rule, Structural Design Requirements for Offshore Renewable Energy Facilities, 1010-AD81 (NPRM: 6/14)

- DOI/BOEM, Proposed Rule, Alaska Regulations (regulations to govern oil and gas operations on the Alaska Outer Continental Shelf), 1010-AD85 (NPRM: 2/14)

- DOI/BOEM, Proposed Rule, Oil Spill Financial Responsibility for Offshore Facilities, 1010-AD86 (NPRM: 12/13)

- DOI/BOEM, Proposed Rule, Adjusting the Oil Pollution Act of 1990 Limits of Liability for Offshore Facilities, 1010-AD87 (NPRM: 12/14)

- Department of Interior / Bureau of Safety and Environmental Enforcement ("DOI/BSEE"), Proposed Rule, Blowout Prevention Systems, 1014-AA11 (NPRM: 3/14; Final Action: 10/14)

- DOI/BSEE, Proposed Rule, Incorporation of Standard Well Design Criteria (API Standards), Operations, Cementing, and Casing Requirements, 1014-AA17 (NPRM: 6/14)

[1] None of these actions is likely to have the effect of imposing liability on mere owners of physical commodities.

- DOI/BSEE, Final Rule, Production Safety Systems and Lifecycle Analysis, 1014-AA10 (Final Action: 5/14)

- DOI/BSEE, Proposed Rule, Improvements in Incident Reporting, Risk-Based Inspections, and Leading and Lagging Indicators, 1014-AA20 (ANPRM: 12/14)

- DOI/BSEE, Proposed Rule, Oil-Spill Response Requirements for Facilities Located Seaward of the Coast Line, 1014-AA23 (NPRM: 12/14)

- Department of Transportation Pipeline and Hazardous Material Safey Administration ("DOT/PHMSA"), Pre-rule, Hazardous Materials: Rail Petitions and Recommendations to Improve the Safety of Railroad Tank Car Transportation (RRR), 2137-AE91 (ANPRM Analyzing Comments: 12/13)

- DOT/PHMSA, Proposed Rule, Pipeline Safety: Safety of On-Shore Liquid Hazardous Pipelines, 2137-AE66 (NPRM: 4/14)

- DOT/PHMSA, Proposed Rule, Pipeline Safety: Excess Flow Valves In Applications Other Than Single-Family Residences in Gas Distribution Systems, 2137-AE71 (NPRM: 5/14)

- DOT/PHMSA, Proposed Rule, Pipeline Safety: Gas Transmission (RRR), 2137-AE72 (NPRM: 7/14)

- DOT/PHMSA, Proposed Rule, Hazardous Materials: Miscellaneous Pressure Vessel Requirements (DOT Spec Cylinders) (RRR), 2137-AE80 (NPRM: 3/14)

- DOT/PHMSA, Proposed Rule, Hazardous Materials: Reverse Logistics (RRR), 2137-AE81 (NPRM: 5/14)

- DOT/PHMSA, Proposed Rule, Pipeline Safety: Periodic Updates of Regulatory References to Technical Standards and Miscellaneous Amendments (RRR), 2137-AE85 (NPRM Comment Period End: 10/15/13)

- DOT/PHMSA, Proposed Rule, Pipeline Safety: Issues related to the use of Plastic Pipe in Gas Pipeline Industry, 2137-AE93 (NPRM: 4/14)

- DOT/PHMSA, Final Rule, Pipeline Safety: Enforcement of State Excavation Damage Laws, 2137-AE43 (Final Rule: 3/14)

- OSHA, Pre-rule, Review/Lookback of OSHA Chemical Standards, 1218-AC74 (Request for information: 12/13)

- OSHA, Pre-rule, Process Safety Management and Prevention of Major Chemical Accidents, 1218-AC82 (Request for Information: 11/13)

- Environmental Protection Agency/Water ("EPA/W"), Proposed Rule, Effluent Guidelines and Standards for Unconventional Oil and Gas Extraction Including Coalbed Methane and Shale Gas Extraction, 2040-AF35 (NPRM 10/14)

- Environmental Protection Agency/ Office of Chemical Safety and Pollution Prevention ("EPA/OCSPP"), Pre-rule, Hydraulic Fracturing Chemicals; Chemical Information Reporting under TSCA section 8(a) and Health and Safety Data Reporting under TSCA section 8(d), 2070-AJ93 (ANPRM: 8/14)

- Environmental Protection Agency/ Office of Solid Waste and Emergency Response (EPA/SWER), Proposed Rule, Revisions to the National Oil and Hazardous Substances Pollution Contingency Plan; Subpart J Product Schedule Listing Requirements, 2050-AE87 (NPRM: 2/14)

- EPA/SWER, Proposed Rule, Financial Responsibility Requirements Under CERCLA Section 108(b) for Classes of Facilities in the Hard Rock Mining Industry, 2050-AG61 (NPRM 8/16).

- EPA/AR (Air and Radiation), Proposed Rule, Petroleum Refinery Sector Risk and Technology Review and NSPS, 2060-AQ75 (NPRM: 2/14; Final Rule: 1/15)

APPENDIX C

PRACTICES FOR LIMITING ENVIRONMENTAL LIABILITY AND ENSURING THAT LEGAL ENTITY SEPARATENESS WILL BE RESPECTED

COVINGTON & BURLING LLP
DAVIS POLK & WARDWELL LLP
SULLIVAN & CROMWELL LLP
VINSON & ELKINS LLP

Attached.

Practices for Limiting Environmental Liability and Ensuring that Legal Entity Separateness Will Be Respected

As explained in the Joint Memorandum of Law prepared by Covington & Burling LLP, Davis Polk & Wardwell LLP, Sullivan & Cromwell LLP and Vinson & Elkins LLP,[1] an FHC that engages in commodities-related trading and investment activities may promote responsible environmental conduct and manage associated environmental liability risk through a range of safeguards. Whether one or more of these safeguards is appropriate to a particular activity or investment will depend on the legal and operational risks associated with that activity or investment. For example, the transport of a commodity such as iron may involve less risk of environmental harm than the transport of oil. Accordingly, some of the measures described below may be advisable generally with respect to particular activities, whereas others may be warranted only in particular circumstances, in response to particular risks. We understand that many of these measures are currently in place, in varying degrees, among FHCs that engage in commodities-related trading and investment.

Commodities Trading and Investment

An FHC or subsidiary that engages in market making and other client-intermediation services in physical commodities, including making or taking physical delivery of or maintaining inventories in physical commodities, can limit the risk of environmental incidents associated with the transportation, storage and processing of such commodities for the FHC or such subsidiary, and the magnitude of any resulting liability, through some or all of the following measures, depending on the nature of the associated risks:

1. Conduct an appropriate analysis of potential environmental liabilities associated with the type of commodities and transactions in which they engage to ensure that potentially material risks are identified in advance so that reasonable safeguards against liability can be identified and deployed. The analysis should be calibrated based on the nature of the involvement and the potential magnitude of the liability.

2. Avoid operating vessels, railcars, pipelines or other transportation or storage facilities used to transport physical commodities, and avoid being an operational owner (as opposed to being a non-operating owner in connection with a traditional lease-financing transaction) of vessels, railcars, pipelines or other

[1] This appendix is being provided to SIFMA in connection with its comment letter to the Board regarding the ANPR, and solely for use by SIFMA in that context. It may not be relied upon by SIFMA for any other purpose, and may not be relied upon by any party other than SIFMA for any purpose. This appendix is provided to SIFMA jointly by the four law firms. The substantive legal analysis with respect to environmental liability has been primarily contributed by Covington & Burling LLP and Vinson & Elkins LLP. The legal analysis with regard to the other subjects addressed by the appendix reflects the contributions of each of the four firms.

transportation or storage facilities used to transport environmentally sensitive commodities.

3. Contract for transportation and storage of physical commodities with owners and operators of transportation, storage or processing facilities that:

    a. are appropriately licensed and qualified to perform the required services, have documented histories of performing such services safely, and are managed independently of the FHC or subsidiary;

    b. maintain and operate their facilities in compliance with government-mandated and/or industry-approved safety standards (*e.g.*, double-hulled oil tankers); and

    c. are adequately capitalized and have financial resources (including insurance) appropriate for the conduct of their business activities (including any anticipated risks).

4. Adopt and implement procedures to ensure that, when contracting with or selecting appropriate providers of transportation, storage, or processing services, the FHC will not control or become excessively involved in the establishment of, or compliance with, the environmental safeguards of such service providers. As necessary (e.g., when evaluating the fitness of prospective service providers unknown to the FHC), conduct appropriate vetting or engage third-party vendors with industry expertise to assist in vetting prospective service providers and their operations.

5. To the extent practicable, structure operations and transactions involving purchase, sale and transportation of physical commodities so that the FHC or subsidiary is merely the "shipper" of the physical commodities to be transported and obtains contractual indemnification for any losses sustained or liabilities incurred as a result of the service provider's conduct.

6. Provide appropriate training for FHC and subsidiary personnel who are engaged in commodity-related activities so that they are aware of the potential risks associated with the commodities involved in the transactions in which they engage and understand the policies and procedures in place to protect the FHC or subsidiary.

7. Maintain appropriate liability coverage commensurate with the anticipated risks of their physical-commodity activities.

<u>Portfolio Company Investments</u>

FHCs may invest in portfolio companies or other investees that engage in commodities handling activities, such as the extraction, processing, storage or transportation of commodities, or that engage in commodities trading and investment. FHCs can limit their potential exposure on theories of veil-piercing to environmental liabilities of such

portfolio companies or investees through a variety of practices designed to ensure that their corporate separateness is respected. Depending on the operational and legal risks associated with their activities, different portfolio companies and investees will pose differing levels of environmental liability risk. Accordingly, the degree to which the measures described below may be appropriate with regard to a particular portfolio company or investee will vary depending on the degree of risk.

1. An FHC may exercise its right to elect some or all members to the board of directors (or other similar governing body) without compromising the legal entity separateness of the FHC and an investee, so long as such persons discharge any applicable fiduciary duties and exercise their responsibilities to oversee management, and the officers of the investee actually manage the day-to-day operations of the business. In appropriate cases, one or more of the investee's directors should be independent of the FHC.

2. Control over the board of directors (or another similar governing body) will not compromise legal entity separateness so long as the members of such governing body make decisions based upon the best interests of the investee and of its owners qua owners in accordance with any applicable fiduciary duties.

3. In appropriate circumstances (and, with respect to merchant banking investments, to the extent not inconsistent with applicable Board regulations), an FHC may appoint one or more of its own employees as officers of a portfolio company or other investee without compromising its limited liability veil, provided that the number of common officers is limited and the officers discharge any applicable fiduciary duties to the portfolio company and do not take action for the benefit of the FHC that is contrary to the best interests of the portfolio company, or operate the portfolio company as an instrumentality or alter-ego of the FHC.

4. An FHC can minimize the risk of piercing of the limited liability veil of a portfolio company or other investee by following standard legal entity formalities:

    a. issuance of ownership interests (in physical or book entry form) in the investees against documented receipt of consideration;

    b. meetings of the owners of the investee held not less than annually for the election of the board of directors (or other similar governing body) of the investee, with minutes of the meetings documented and maintained in the records of the investee;

    c. meetings of the board of directors (or similar governing body) of the investee held not less than quarterly, with minutes of the meetings documented, approved and maintained in the records of the investee;

d. annual election of officers of the investee by the board of directors (or similar governing body), with the number, qualifications and functions of the officers appropriate for the size and activities of the investee; and

e. exercise of appropriate and customary discretion by the officers of the investee in running the business.

5. The following are important safeguards for an FHC to apply in its risk management program, as appropriate, in order to minimize any risk that legal entity separateness between an FHC and each of its portfolio companies and other investees will be disregarded:

   a. assurances at the time of investment that each investee is adequately capitalized for its intended business activities;

   b. separate cash-management functions, and no commingling of funds between the FHC and its investee; independent and arm's-length financing arrangements will further help ensure that legal entity separateness will be respected;

   c. maintenance by the investee of its own business operations, office space, address, telephone number, e-mail address and similar aspects of independent existence; separateness will more likely be respected if assets are not shared or commingled, promotional and other literature makes clear that the investee is a separate business enterprise and not a division of the FHC, and the name of the investee does not include any of the distinguishing features of the FHC's name;

   d. treatment of the investee as an independent profit center; independence will be enhanced if any incentive compensation of officers and employees of the investee for their work at the investee is based primarily upon the performance of the investee, not the performance of the FHC;

   e. all dealings between the FHC and the investee are on an arm's-length basis, and any related-party transactions above an appropriate threshold are approved by the investee's board of directors (or similar governing body), or an appropriate committee of that body; if the investee has one or more independent members, they should provide this approval; and

   f. the relationship of the investee with the FHC is not mischaracterized to any third party in a manner that could fraudulently induce the third party to take, or refrain from taking, an action.

6. An FHC can limit its potential liability arising out of the commodities activities of a portfolio company or other investee by avoiding employee involvement in day-to-day decision-making regarding facility operations or environmental compliance of such an entity, including avoiding:

    a. making waste disposal decisions;

    b. making decisions regarding investigations of environmental contamination;

    c. making maintenance decisions;

    d. directly contracting with transportation and waste disposal companies to remove contaminants from an investee's property;

    e. operating the investee's physical facilities;

    f. creating a misimpression that it controls or operates the investee's facilities; and

    g. interfacing directly with environmental regulators concerning operations at an investee's facility.

7. An FHC can also limit its potential liability arising out of the commodities activities of a portfolio company or other investee by avoiding crossing the line between appropriate oversight by an owner or board of directors (or other similar governing bodies) over such an investee and controlling the day-to-day operations of the investee's commodity-related activities, by:

    a. ensuring that the investee creates and enforces its own policies and operational plans regarding environmental compliance;

    b. giving broad rather than detailed policy directives to the investees, such that the FHC is not viewed as managing, directing or conducting operational functions or environmental compliance of a facility; and

    c. providing any consulting services to the investees on an arm's length basis.

8. As part of the FHC's consideration of whether to make or retain an investment in a portfolio company or other investee engaged in commodities activities, in appropriate circumstances the FHC should assess and evaluate the environmental and veil-piercing laws of the jurisdictions in which the investee operates, whether inside or outside the United States.

9. Ensure that risks presented by operations of portfolio companies or other investees engaged in the extraction, processing, storage or transportation of physical commodities are appropriately limited by ensuring that the management of each such company is trained and motivated to take appropriate steps to ensure that the company:

    a. Conducts an appropriate analysis of potential environmental liabilities associated with the commodity activities in question to ensure that potentially material risks are identified and reasonable safeguards against liability are identified and deployed. The analysis should be more rigorous as the potential magnitude of the liability increases;

    b. Establishes risk-management and safety programs adequate to limit the risks of its operations to levels consistent with parameters established by its board;

    c. Trains personnel engaged in commodity activities so that they are aware of the potential risks associated with those activities and understand the risk-mitigation options available to protect the company; and

    d. Maintains appropriate liability coverage commensurate with the anticipated risks of its physical-commodity activities.

APPENDIX D

SUMMARY OF KEY INTERNATIONAL CONVENTIONS

HOLMAN FENWICK WILLAN

Attached.

holman fenwick willan hfw

M E M O R A N D U M

TO : Securities Industry and Financial Markets Association ("SIFMA")

DATE : 15 April 2014

RE : Overview of International Conventions relating to Ship-source Oil Pollution liability in the context of SIFMA's response to the Advance Notice of Proposed Rulemaking issued by the Board of Governors of the US Federal Reserve System on 21 January 2014.

1. Scope of Memorandum

1.1 We have been asked to analyse potential risks arising in jurisdictions outside the US for financial holding company groups ("FHCs") engaged in a range of activities related to physical commodities, including the trading, storage and transportation by sea of oil and petroleum products. An FHC in this scenario might be the owner of cargo and/or bunkers and/or the time or voyage charterer.

1.2 An FHC planning to engage in commodities trading activities in a particular jurisdiction will inevitably take advice from local lawyers to identify and assess the risks involved. We have been involved in a number of multi-jurisdictional due diligence exercises of this kind for a variety of FHCs in recent years. In the course of such work, we have looked into the oil pollution liability risks in around sixty jurisdictions worldwide. However, any examples of the position in such jurisdictions provided in this Memorandum are illustrative only. If detailed advice is needed as to the current position other than in relation to English law, this should be sought on a case-by-case basis.

1.3 We set out below a brief summary of the international ship-source oil pollution liability and compensation regime, some form of which governs liability in a number of non-US jurisdictions, and of the applicable provisions within the EU. We also consider the position in states which have not ratified the international conventions at all, where the position is governed by domestic law, where an old version of the international regime applies, or where local law varies the position under the international regime.

1.4 This Memorandum has been prepared and is being provided to SIFMA in the context of SIFMA's response to the Advance Notice of Proposed Rulemaking issued by the Board of Governors of the US Federal Reserve System on 21 January 2014[1] and is solely for use by SIFMA in that context. It may not be relied upon by SIFMA for any other purpose, and may not be relied upon by any party other than SIFMA for any purpose.

2. International Convention on Civil Liability for Oil Pollution Damage 1992 ("CLC92"), International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992 ("Fund92") and Supplementary Fund Protocol 2003 ("SFP")

2.1 The international regime cover liability for pollution damage (including clean up, physical damage and economic loss) where there is a spill of persistent oil (such as crude or heavy fuel oil) from a

[1] Advance Notice of Proposed Rulemaking on Complementary Activities, Merchant Banking Activities, and other Activities of Financial Holding Company Groups Related to Physical Commodities issued by the Board of Governors of the Federal Reserve System and published in the Federal Register on 21 January 2014.

tanker, whether that oil is carried as a cargo or as bunkers. It applies to pollution damage in the territory, territorial sea or EEZ of a contracting state.

2.2 CLC92 imposes strict liability (i.e. liability without fault) on the registered shipowner in relation to oil pollution damage. CLC92 also creates a system of compulsory liability insurance, which means that, in practice, claims for compensation will usually be paid by the shipowner's P&I insurers. The owner is generally entitled to limit his liability to an amount linked to the tonnage of his ship (up to a maximum of 89.77 million SDRs or US$138.7 million)[2].

2.3 Where compensation under CLC92 is inadequate, for example where the value of claims exceeds the shipowner's limitation figure, a second tier of compensation up to a maximum of US$203 million SDRs (US$313.7 million, including the amount paid by the shipowner) is payable by the International Oil Pollution Compensation Fund ("IOPC Fund") under Fund92. SFP makes available an additional third layer of compensation. If a major spill of persistent oil from a tanker occurred in a state party to CLC92, Fund92 and SFP, the total compensation available from all three tiers would be 750 million SDRs (US$1,159 million). There has to date been no incident involving the Supplementary Fund.

2.4 A key feature of CLC92 is the "channelling" provision, designed to direct liability towards the shipowner by excluding the liability of other potential defendants. No claim for compensation for pollution damage may be made, whether under CLC92 or otherwise, against *"any charterer (howsoever described, including a bareboat charterer), manager or operator of the ship"*, unless the damage resulted from the personal act or omission of that person, committed with intent to cause such damage, or recklessly and with knowledge that such damage would probably result. The list does not include cargo owners.

2.5 In the litigation following the ***"Erika"*** oil spill, the French Cour de Cassation found that Total could not rely upon the CLC92 channelling provision, since the pollution damage had resulted from Total's recklessness in carrying out vetting operations prior to chartering the vessel. There needs to be intent or recklessness before a charterer loses the channelling protection under CLC92. Most commentators take the view that the ***"Erika"*** is likely to be a one-off decision.

3. International Convention on Civil Liability for Bunker Oil Pollution Damage 2001

3.1 CLC92 and Fund92 apply only to spills of bunkers from oil tankers. Spills of bunker oil[3] from a non-tanker (e.g. an LNG carrier) are governed by the Bunkers Convention. Strict liability is imposed on the shipowner, defined in broad terms as "*the owner, bareboat charterer, manager and operator of the ship*". It is unlikely that a time/voyage charterer or a cargo owner would be included in the definition of shipowner and potentially subject to direct strict liability claims.

3.2 However, unlike CLC92, the Bunkers Convention contains no channelling provision protecting

[2] The unit of account in the Conventions is the Special Drawing Right ("SDR") as defined by the International Monetary Fund. In this Memorandum, the SDR has been converted into US dollars at the rate of exchange applicable on 1 April 2014 i.e. 1 SDR = US$1.54524.

[3] Bunker oil means any hydrocarbon mineral oil, including lubricating oil, used or intended to be used for the operation or propulsion of the ship, and any residues of such oil. The criterion for determining whether oil on board a ship falls within this definition is therefore its intended use. Bunker spills are a common source of pollution from ships; spills of oil from dry cargo ships, LNG and LPG carriers, passenger ships and other vessels not engaged in the carriage of oil in bulk account for approximately 63% of all serious pollution incidents. Most modern vessels are capable of burning low-grade residual oils (i.e. those remaining at the end of the refining process), which tend to be viscous and highly persistent, which means that a spill of a relatively small quantity of bunkers can be as serious in pollution terms as a substantial spill of light crude.

charterers. A time or voyage charterer or cargo owner could in theory face claims, for example in negligence or nuisance, but some degree of fault would need to be established.

3.3 The Bunkers Convention establishes only a single-tier compensation regime, so there is no additional compensation available once the shipowner's liability limit is reached. Also, the Bunkers Convention does not contain its own liability limits; claims will be limited in accordance with the applicable national or international regime, but not exceeding the limits calculated in accordance with the 1996 Protocol to the Convention on Limitation of Liability for Maritime Claims, 1976 ("LLMC96"). These limits are typically lower than those under CLC92/Fund92 and SFP[4].

4. International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea and Protocol 2010 ("HNS")

4.1 HNS is not yet in force, but once it is, it will apply to liability for pollution caused by a spill of non-persistent oil (e.g. gasoline, LPG/LNG) and also, following a spill of persistent oil from a tanker, to types of damage not covered by the CLC92 definition of pollution damage (e.g. fire, explosion and/or death/personal injury).

4.2 Like CLC92, HNS imposes strict liability on the shipowner and contains channelling provisions including a prohibition on claims against any charterer, unless the damage resulted from a personal act or omission, committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result.

5. Which countries have ratified the international conventions?

We attach at Annex I a List of the States which have ratified the various international conventions, together with maps showing the global position. We also attach for ease of reference a list of the EU and EEA States.

6. EU Directives[5] relating to liability for oil pollution

6.1 EU Directive on Ship Source Pollution ("SSP Directive")

The SSP Directive imposes criminal liability for pollution on the cargo owner or any other person involved and applies to a widely defined range of polluting substances, including *"petroleum in any form including....refined products"*. The Regulations transposing the SSP Directive into English law[6] make clear that it can apply to both charterers and cargo owners. However, there needs to be an element of intent, recklessness or serious negligence before there will be a criminal offence.

6.2 EU Waste Framework Directive

In the ***Commune de Mesquer*** case, the European Court of Justice held that a cargo of heavy fuel oil accidentally spilled from the "***Erika"*** into the sea, once it had been mixed with seawater and sediment, constituted waste; therefore the national court could apply EU waste liability provisions to

[4] These factors i.e. the single tier regime and the reference to LLMC96, might increase the risk of claims being brought following a major bunker spill against parties other than the shipowner.

[5] Some EU Directives (or equivalent provisions) may also be applied apply in EEA states (e.g. Norway applies provisions similar to the SSP and Waste Framework Directives).

[6] Merchant Shipping (Implementation of Ship-Source Pollution Directive) Regulations 2009

a seller of oil and/or charterer of the carrying vessel as producer/holder of the waste. However, this would only apply where a charterer/cargo owner as waste producer/holder was the polluter and had contributed by his conduct to the risk that the pollution caused by the spill would occur e.g. by a lack of due diligence in vetting procedures. It could therefore be avoided by implementing (and complying with) such procedures.

7. **States which have not ratified some or all international conventions or have ratified previous versions**

7.1 Outside the EU/EEA, the EU Directives outlined above will not apply. So far as the international conventions covering ship-source pollution are concerned, these will apply in states where they have been ratified (subject to the points raised below).

7.2 There are some jurisdictions where either none of the international conventions, or the old regime,[7] applies. In theory, in states which have ratified CLC69 instead of CLC92 (e.g. Brazil, Libya), there is likely to be more incentive for claims to be made by victims of a major spill against parties other than a shipowner. However, in states which have no recent experience of a major oil spill, local lawyers cannot be clear how the law will be applied and particularly how the international regime will work alongside local law.

7.3 There are also examples of states where, although CLC92/Fund92 have been ratified, domestic law departs in some respect from the international conventions. This will sometimes benefit charterers/cargo owners and sometimes not:

(i) in some jurisdictions (e.g. Denmark), the protection of channelling provisions contained in CLC92 is extended to cover cargo owners as well as charterers.

(ii) in other jurisdictions (e.g. Angola), charterers and/or cargo owners can in theory be held strictly liable for causing environmental damage under domestic law.

(iii) there are jurisdictions where it is unclear whether the international conventions have been properly enacted into domestic law and therefore unclear how/whether the conventions would be applied by the local courts[8].

(iv) recent amendments to Australian law[9] mean that a "charterer" of any kind can now be held strictly liable for oil discharge from a vessel, irrespective of whether they have any control or influence over the operation of the vessel, or any direct involvement in the event causing a discharge.

[7] The 1969 Civil Liability Convention ("CLC69"). As at 1 April 2014, 35 states were parties to CLC69. Unlike CLC92, CLC69 does not apply to bunker spills, contains no channelling protection for charterers and contains much lower limits, with a maximum of 14 million SDR (US$21.6 million) payable by the shipowner.

[8] In Ghana, for example, we understand that, whilst the government has ratified both the CLC 1969 and 1992, neither have been enacted into domestic legislation, and so are unlikely to be applicable to individual victims of a pollution incident, leaving the potential for a charterer or cargo owner to be exposed to direct claims from victims.

[9] There is some doubt as to whether the legislature intended to make all classes of charterer strictly liable for oil pollution. However, it is possible that courts may apply a broad interpretation to the term "charterer" in the absence of any apparent legislative intent to restrict the term to those, such as demise charterers, who exercise control over how a vessel is operated and who might reasonably be considered to carry the same responsibility as vessel owners and masters. Until the scope of the amendment has been clarified, traders chartering vessels to load or discharge in Australian ports should be actively considering what additional protection they can negotiate into their charters by way of indemnities from vessel owners in the event that charterers are prosecuted and held strictly liable for oil pollution. They should also consider obtaining additional insurance cover.

8. **Risk of direct/indirect claim against a charterer and/or a cargo owner and mitigation**

8.1 The structure of the international regime makes it unlikely in most cases that direct claims will be made by the victims of oil pollution against a time or voyage charterer or cargo owner. Victims will usually pursue claims against the shipowner, as there is no need to establish fault and strict liability is underpinned by compulsory insurance. Where CLC92, Fund92 and SFP apply, the compensation available is likely to be sufficient to cover all claims in almost all incidents.

8.2 If there is a spill in a jurisdiction where the latest international regime does not apply in its entirety, or at all, the claimant may be left without the benefit of a strict liability claim against an insured shipowner, or facing low limits where less compensation is available. In such cases, the claimant may have an incentive to pursue a party other than the shipowner[10]. A court might be inclined towards a creative approach to potential liability of parties such as a cargo owner or charterer, to ensure that victims were compensated, particularly where there was a deep-pocketed defendant involved.

8.3 Once the shipowner and his P&I Club (and in a major spill, the IOPC Fund and Supplementary Fund) have paid compensation to victims, they may look to recover those payments from the party responsible for the spill, according to the principle that the polluter pays. CLC92 provides that the channelling provisions do not prejudice any right of recourse which the shipowner may have against third parties. The Bunkers Convention also provides that nothing in it shall prejudice any rights of recourse of the shipowner.

8.4 Such claims are likely to be in tort (e.g. negligence, nuisance) or by the shipowner in contract under the charterparty (see below). Provided a charterer/cargo owner has been diligent in their choice of vessel and takes no part in day-to-day vessel operations, it is unlikely that they could be found to have a sufficient degree of fault to be responsible for a spill. Recourse claims against a cargo owner are rare.

8.5 A shipowner may try to recover from the charterer on the basis that pollution has arisen as a result of the charterer nominating an unsafe port, in breach of the safe port warranty which is contained in most standard forms of charterparty. Some clauses of this kind have been construed as a warranty by which the charterer assumes any risk of unsafety at the port. However, such claims will usually be covered by charterers' liability insurance[11].

Holman Fenwick Willan LLP

[10] A particular risk may arise where a jurisdiction imposes strict liability for pollution on a charterer or cargo owner.

[11] A shipowner would usually have insurance cover up to the compulsory maximum limit for oil pollution damage of US$1 billion (i.e.1,000 million). Charterers' liability cover varies, but P&I Clubs generally offer comprehensive insurance to both charterers and cargo owners to cover pollution risks. There is no compulsory obligation for charterers to obtain oil pollution cover, or any maximum limits, although this would need to be checked with legal counsel in the relevant jurisdiction on a case by case basis.

APPENDIX E

LEGAL DUE DILIGENCE PROCEDURES FOR CROSS-BORDER COMMODITIES ACTIVITIES[1]

COVINGTON & BURLING LLP
DAVIS POLK & WARDWELL LLP
SULLIVAN & CROMWELL LLP
VINSON & ELKINS LLP

An FHC proposing to expand its business to engage in commodities activities in a jurisdiction outside the United States in the context of acting pursuant to the Complementary Powers Authority, the Commodities Grandfathering Authority or the Merchant Banking Authority would, depending on the extent and nature of such proposed commodities activities, obtain an analysis of the legal risks posed by such activities under the laws of that jurisdiction. The FHC would be expected to review the potential risks revealed by that analysis in light of the measures that it could take to mitigate those risks, and then make a decision on whether to engage in the proposed commodities activities in that jurisdiction. It would not, however, generally be expected that an FHC should engage in an in-depth analysis of such legal risks where the connection with the relevant jurisdiction was remote or tangential — for example, where the FHC was a mere owner of a commodity on a vessel in transit through the territorial waters of such jurisdiction, other than the jurisdiction of the load port, destination port and of commonly used bunkering centers. The decision might contain limitations on the types of activities in which it will engage and impose special risk mitigating measures beyond those applied to similar activities conducted in the United States. The FHC's review and decision making would be conducted in the context of the FHC's normal risk management process, subject to board oversight.

[1] This appendix is being provided to SIFMA in connection with its comment letter to the Board regarding the ANPR, and solely for use by SIFMA in that context. It may not be relied upon by SIFMA for any other purpose, and may not be relied upon by any party other than SIFMA for any purpose. This appendix is provided to SIFMA jointly by the four law firms. The substantive legal analysis with respect to environmental liability has been primarily contributed by Covington & Burling LLP and Vinson & Elkins LLP. The legal analysis with regard to the other subjects addressed by the appendix reflects the contributions of each of the four firms.

APPENDIX F

CERTAIN FINANCIAL INDUSTRY LOSS DATA FROM PHYSICAL COMMODITIES ACTIVITIES

2006-2011

The Operational Riskdata eXchange Association ("**ORX**") is an operational risk data consortium that provides for the anonymous exchange of operational risk loss data among its 66 member banking organizations, which consist of major U.S. and non-U.S. banking organizations.[1] According to ORX, its Global Loss Database contains 343,960 operational risk loss events representing total losses of EUR 177 billion. ORX has also become a forum for the development of common operational risk standards. All members are required to submit data to ORX using the common standards and formats developed by ORX. Those standards are updated as industry and supervisory practice evolves. The latest version of ORX's publication, *Operational Risk Reporting Standards (ORRS)*, is version 1.2, approved by the ORX board on June 10, 2011 and revised on July 12, 2012 ("**ORRS**"), and its accompanying *Appendix — Detailed Descriptions of Data Categories* ("**ORRS Appendix**") (collectively, the "**ORX Guidance**"). The data ORX collects from its members is confidential. Member institutions submit data to ORX in accordance with the ORRS on a quarterly basis. ORX generally only makes data available to member institutions which contribute to the database, but it publishes a high-level set of data, the ORX Report on Operational Risk Loss Data, which is available to the public.[2]

The most recent ORX Report on Operational Risk Loss Data, dated 2012, shows that in the six-year period from 2006 through 2011, there were a total of 2,313 operational loss events in the "Disasters and Public Safety" loss event category and that ORX members reporting operational loss events under this category incurred aggregate losses of EUR 337 million.[3] Based on this data, the average loss per operational loss event in this category was EUR 14,570. Since, as explained more fully below, this category of operational loss events includes slip and fall accidents by members of the public on bank premises, natural disasters and acts of terrorism in addition to environmental accidents, operational loss events arising from environmental liability are likely to be a fraction of the reported loss events.

Operational risk under the U.S. Basel III rules and the use of ORX data

Under the U.S. Basel III rules, operational risk refers to "the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (including

[1] A list of ORX members is available at: http://www.orx.org/Pages/ORXMembers.aspx. The 12 U.S. members consist of: Ally Financial, Inc., American Express Company, Bank of America, BNY Mellon, Capital One, JPMorgan Chase & Co., Morgan Stanley, Northern Trust Company, PNC Bank, State Street Corporation, US Bancorp and Wells Fargo & Co.

[2] The 2012 ORX Report on Operational Risk Loss Data is available at http://www.orx.org/Pages/Contact.aspx?Type=ORR. The 2013 ORX Report will not be available until July 2014.

[3] *See id*.

legal risk, but excluding strategic and reputational risk)."[4] Operational loss refers to "a loss (excluding insurance or tax effects) resulting from an operational loss event…."[5] An operational loss event in turn means "an event that results in loss and is associated with any of the following seven operational loss event type categories":

- internal fraud;
- external fraud;
- employment practices and workplace safety;
- clients, products, and business practices;
- damage to physical assets;
- business disruption and system failures; and
- execution, delivery, and process management.[6]

The ORRS loss event categories are effectively the same as the U.S. Basel III categories, at least at level 1 of classification.[7] However, ORX has reclassified the U.S. Basel III and Basel II Framework "Damage to physical assets" level 1 category as "Disasters & Public Safety" and has created three level 2 sub-categories:

- Natural disasters & other events;
- Accidents & public safety;
- Wilful damage & terrorism.[8]

The ORRS Appendix lists various examples of events allocated to these level 2 sub-categories. Under "accidents & public safety," the examples given are "slip & fall by a member of the public" and "pollution by the firm."[9]

For "Large Losses," defined as losses equal to or greater than EUR 10,000,000 (approximately $13,797,000 at current exchange rates), ORX requires members to provide "large Loss Event Attributes" information broken down by level 1 categories (external, people/staff, governance and structure, processes, internal systems failure, jurisdiction/choice of law,

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[4] *See, e.g.*, 12 C.F.R. § 217.101(b) (definition of "operational risk").

[5] *See, e.g.*, 12 C.F.R. § 217.101(b) (definition of "operational loss").

[6] *See, e.g.*, 12 C.F.R. § 217.101(b) (definition of "operational loss event").

[7] *See* ORRS at 42.

[8] *Id.*

[9] ORRS Appendix at 24.

counterparty/claimant type, role of the firm, and environmental volatility), as well as level 2 sub-categories.[10] Under level 1 "external," the ORRS Appendix level 2 sub-categories include "man-made disasters" and the associated description is "utility outage, strike — transport, staff, pollution."[11]

Based on the Associations' understanding of the ORX operational loss event reporting procedures and categories, any member financial institution incurring a reportable loss event arising from, for example, a lawsuit arising from an environmental accident, where the basis of the FHC's liability would be as an owner or operator of the physical commodities, would report it under either the level 1 category of "damage to physical assets" and the level 2 sub-category of "accidents & public safety" or under the large loss event level 1 category of "external" and the level 2 sub-category of "man-made disasters."

An advanced approaches FHC must have operational risk data and assessment systems that capture operational risks to which the FHC is exposed, including a systematic process for capturing and using both internal and external operational loss event data and incorporating scenario analysis into its systems.[12] The ORX data represent external operational loss event data that may be used by an advanced approaches FHC in calculating its operational risk exposure under the U.S. Basel III final rule and thus for calculating its risk-weighted assets for operational risk.

[10] *See* ORRS at 51-52; ORRS Appendix at 86.

[11] ORRS Appendix at 87. The notes to these level 1 categories and level 2 sub-categories contain the instruction: "In the case of a lawsuit or settlement, the Alleged Cause category selected should correspond to the underlying or alleged cause and not the dispute resolution mechanism – litigation." This implies that a large loss amount arising from a lawsuit over an environmental accident would be classified under the level 2 sub-category "man-made disasters."

[12] *See* 12 C.F.R. § 217.122(g)(2) (qualification requirements for operational risk data and assessment systems).

APPENDIX G

THE ROLE OF BANKS IN PHYSICAL COMMODITIES

IHS GLOBAL, INC.

Attached.

THE ROLE OF BANKS IN PHYSICAL COMMODITIES

The Source for Critical Information and Insight™

Submitted by:
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STUDY PURPOSE AND RESEARCH METHODOLOGY

This study explains and illustrates the important business role that banks play in the commodities sectors of our economy. We highlight the size and significance of these sectors and review their business value chains. We demonstrate how the role of financial intermediaries in physical commodities is beneficial in providing businesses access to capital and related risk management (e.g. hedging) services. We use industry examples to highlight the role of banks in physical commodities and, while we believe the impact is significant, we have not estimated the overall economic or consumer impact of this role as we have done in other studies. This report draws on the multidisciplinary expertise of IHS Inc. The study has been commissioned by the Securities Industry and Financial Markets Association (SIFMA). The analysis and the opinions contained in this report are entirely those of IHS Inc. and we are solely responsible for the contents herein.

The authors conducted interviews with commodity producers, transporters, converters, end users, bank and non-bank traders and others. We also conducted discussions with our own internal and external networks of industry experts. We supplemented primary research with secondary research including a review of the existing literature, public filings and other accounts to document our fact base and to develop industry case studies.

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I. EXECUTIVE SUMMARY

Banks play an essential role in assuring the smooth functioning of the commodity markets which underpin the $16.6 trillion U.S. economy, and on which consumers ultimately rely. This report seeks to explain that role and how the ability of banks to participate both in financial and physical markets enables them to better contribute to market liquidity and stability, and to meet the needs of companies, consumers, and the overall U.S. economy. This report does so both by explaining the roles that banks play and then demonstrating with five case studies. It also highlights that curtailment of these roles would impair liquidity, increase risk for market participants, reduce energy investment, and make disruptions more likely.

- **Why it Matters: Commodities play a large and important role in the U.S. economy and are the foundation for overall economic activity.**
  - The oil and gas industry alone supports more than 9.6 million jobs in the U.S., and contributes more than $1.1 trillion toward U.S. GDP (7.3% of total economic output); as a separate country, the U.S. oil and gas economy would rank 16th in the world, just ahead of Saudi Arabia.[1, 2]
  - The U.S. enjoys some of the lowest energy prices in the developed world, providing companies with a competitive advantage and supporting a higher standard of living.
  - Security of energy supply brings important strategic benefits to the U.S.
- **The Need: Commodity producers, manufacturers and end users face the risks of commodity price movements, but have different needs, time horizons and incentives.**
  - Commodity price risk is a key concern for participants in the commodity sector, whether buyer or seller. The ability to hedge against adverse commodity price movements improves the ability of each to operate, invest and grow—and in some cases is essential for survival.
  - For example, airlines need stable fuel costs, oil and natural gas producers need revenue certainty to develop reserves, chemical companies need competitive feedstock costs, utilities need reliable sources of energy and developers of wind and electric generation need revenue certainty. Hedging enables small and medium sized companies to maintain more stable cash flow and to raise capital.
- **Bridging Buyers and Sellers: Banks provide liquidity in commodities markets through market making activities, bringing together buyers and sellers that have different needs, risks, time horizons and incentives.**

[1] Excludes direct employment from petrochemical facilities.
[2] "Economic Impacts of the Oil and Natural Gas Industry on the U.S. Economy in 2011", PwC (July 2013); Professor Mark J. Perry, University of Michigan and the American Enterprise Institute (January 8, 2013).

  - Producers, consumers, trading companies and investors have different positions, timing, needs and incentives. Market making bridges these differences by creating a counterparty to buyers and sellers, enabling them to transact.

  - Market making is especially important for transactions in local, regional or non-benchmark markets, as well as for customized hedges.

  - Unlike standardized, exchange-traded futures contracts, customized trades (often in the form of over-the-counter, or OTC, contracts) can be executed with tailored terms (e.g. specific location, time, period, product or grade, etc.). These customized trades reduce "basis risk"—that is, the variability between a standard benchmark commodity price in a hedge and an actual price exposure.

  - Market making activity provides liquidity to exchanges and the OTC markets, plus the availability of hedging, financing and other intermediation services. Increased liquidity is associated with lower price volatility, narrower bid-ask spreads and reduced basis risk for hedging strategies.

- **Taking Delivery: The ability to physically settle commodity positions—to take delivery of the product that underlies a contract—is crucial to being able to make markets in commodities and enable industry participants to manage and hedge their risks.**

  - Notwithstanding a relatively small physical footprint (e.g. 10% of U.S. natural gas trading), active participation in physical commodities provides timely and consistent visibility into market dynamics, product movements, inventories, facility outages and other information that is critical to price risk and execute trades.

  - This also ensures that prices for financial contracts ultimately converge with prices for physical commodities, and that futures prices converge with spot prices, which maintains a more stable and efficient market.

- **Financing and Physical Delivery: Commodity producers, manufacturers and end users raise capital in a variety of ways; trade finance often requires banks to be able to take physical delivery of commodities.**

  - Energy and other commodities industries are capital intensive, making it important to be able to raise capital easily and cost-effectively, for example, through project finance. A single production facility may cost billions of dollars.

  - Unlike exchanges and clearing houses that require companies to post margin, banks accept non-standard collateral and extend credit to support long term OTC hedges. In some cases this requires banks to be able to execute physical orders.

  - In many markets, derivative proxies for physical and forwards do not exist. Physical participation can be necessary for structured financing and linked offtake/supply agreements. Some project developments, such as wind farms and infrastructure, would not have otherwise been possible without such services.

  - These services can be especially important for smaller and medium sized companies that do not have the in-house cash flows, expertise or risk-management capabilities that are resident within larger competitors.

- **Commodities Case Studies: We outline the role of banks with five industry case studies.**

  - **Oil: Saving Refineries in the Mid-Atlantic States.** Combined financing, physical oil trade and risk management services enabled the continued operation of three East Coast refineries, plus refineries in other regions. Consumers benefitted through greater availability of refined products, lower absolute gasoline prices, reduced exposure to supply chain disruptions and ongoing employment and economic output.

  - **Jet Fuel: Helping to Keep an Airline Aloft.** A jet fuel supply arrangement for a major U.S. airline—including working capital financing, and a fuel supply outsourcing solution—reduced inventory and fuel costs. In order to fulfill the supply obligations, the bank participated in many different physical jet fuel markets, buying locally or shipping in from more distant markets.

  - **Natural Gas**: **Expanding Supply.** Credit extended through Volumetric Production Payment (VPP) agreements financed the development and production of U.S. natural gas resources, especially for small and medium sized producers. Banks need to be able to take physical delivery of future gas production, since this is the collateral that supports this transaction.

  - **Non-Ferrous Metals: Maintaining Capacity during Extreme Downturn.** Inventory financing and support to the aluminum industry since the 2008-2009 recession helped maintain production. The market environment encouraged the purchase of "excess" production, by financing storage at low rates and hedging future price risk.

  - **Renewable Energy: Powering Up a Wind Farm.** A renewable power developer building a Montana wind farm was provided with a construction loan, revenue hedge, physical power scheduling and a tax equity investment, enabling this project to move ahead. The bank needed to be active in the physical power and transmission markets to price the hedge and physically offtake the power.

- **Bank Regulation: Among market makers, present and potential, banks are subject to a higher degree of oversight than trading firms and other non-bank companies, including oversight by the Federal Reserve, the Securities and Exchange Commission and the Commodities Futures Trading Commission.**

II. THE ROLE OF BANKS

Banks play an essential, if poorly understood, role in assuring the smooth functioning of the commodity markets that underpin the $16 trillion U.S. economy and on which consumers ultimately rely. They do so by providing capital, enabling companies of all kinds to manage risk, and by bringing disparate buyers and sellers together.

The complex, competitive and capital intensive commodities industries require significant levels of investment in production, transport, processing and marketing facilities to bring energy and products to the American consumer. Financial institutions are at the center of this activity. Physical commodity trade—being able to take or make delivery of the underlying commodity—is often required to provide these services.

The consequences of impairing this role could be far-reaching and negative. The development of new wind farms and natural gas power plants may be curtailed because of the inability of developers to hedge their price risks. Independent oil and gas producers and heating oil dealers would have limited ability to hedge the price risks associated with investment and inventory. Airlines, highly vulnerable to jet fuel prices, could be put at risk. Refineries could be shut down, leading to higher gasoline prices. Overall, competition would be reduced in energy markets and smaller players would be disadvantaged. Higher volatility would lead to a foreshortening of domestic investment leading to increased foreign energy dependence. And consumers—and the U.S. economy—would be hurt by higher and more uncertain prices.

If the banks were not participating in physical commodity markets, their ability to serve clients with risk management and financing services would suffer. It is not at all clear who could replace them or to what extent. Some would be more opaque, less-transparent entities, based outside the United States. Others could be large competitors to the small and medium sized companies being served by the banks. Moreover, all would be much less regulated than banks, which are among the most highly-regulated entities in the United States.

Banks create orderly and efficient commodities markets through several specific roles. These include:

- Market making and provision of market liquidity,
- Efficient price formation,
- Risk management solutions,
- Project finance,
- Extension of credit, and
- Bolstering industry competition.

MARKET MAKING AND MARKET LIQUIDITY

Banks provide a central role in connecting disparate buyers and sellers through combined physical and financial market activities. The commodity markets consist of a broad range of participants, with their own risk profiles and abilities to take on and manage risk. From a broad perspective, we identify four groups in Table 1.

TABLE 1

TYPE	CHARACTERISTICS
Resource Producers	
• Crude producers • Gas producers • Mining companies	• Major investments rely on commodity price • Desires long term (5+ year) price risk management • Basis risk of moderate concern
Consumers	
• Personal end users (e.g. car owners) • Commercial fuel end users (e.g. airline, truck company) • End use products manufactures (e.g. auto companies)	• Risk management of volatile commodity important to competitive position and financial performance • Typical desire six months to one year price risk management • May seek physical supply and risk management outsourcing
Manufacturers/Energy Tranformers	
• Oil refiners • Gas processors • Metals refiners • Petrochemical/fertilizer manufacturers • Power generators	• Sensitive to margin and less so with absolute price • Can be difficult to risk management narrow margin (spread between two larger feedstock and product prices) • Risk management usage varies by industry but commonly involve banks due to complexity • Price takers
Commodity Price Investors	
• Institutional • Individual	• Commonly use exchange products (commodity index finds or direct exchange positions) • Investment focused • More active during period of price increase • Mostly trade near months

The needs for services vary between groups and companies. For example, an aluminum window frame extruder might want to continually hedge aluminum price risk one year forward for planning and budgeting purposes, while a bauxite mining company may want five-year price protection to undertake major capital investments. In this case, one company is effectively looking to lock in purchase prices while the other needs to lock in sales prices. While both companies care about aluminum prices, there are major differences in timing, tenor, location and the nature of the underlying product (e.g. finished rolled aluminum versus raw alumina).

If all parties had identical but offsetting positions, there would be no need for an intermediary beyond simply connecting back-to-back trades of buyers and sellers through a common platform. In this idealized world, there would be the same number of buyers and sellers, for the same exposure, at the same time, for the same hedge horizon, for the same location. In reality, nearly none of these conditions exist in the commodities markets. Thus, banks create a willing and able counterparty so these companies can meet their needs.

As market makers, banks provide liquidity, or immediacy, because they bear the price risk between the arrival of sellers and buyers, which can lead to temporary accumulations of inventory. Banks provide much needed liquidity by acting as counterparties in trades and by accumulating inventories in anticipation of customer demand.[3] Due to the illiquidity of many commodities exposures, as well as the construct of some commodity risk management solutions, banks must accumulate and net-off various exposures that can require more time to unwind than a traditional market maker's position in highly liquid markets, such as U.S. Treasuries. Thus, banks are the "liquidity providers" in less liquid markets because they see client flow from both producers and consumers over a sufficient time period to effectively intermediate and disseminate the risk. Furthermore, non-bank trading entities generally only participate in times when there is a strong enough arbitrage to do so.

EFFICIENT PRICE FORMATION

Banks add liquidity and an additional class of participant in the commodities markets—providing an important intermediation service that connects buyers and sellers across locations, time periods and product qualities—that leads to more efficient price formation.

Unlike other financial assets, commodity instruments are related to a physical product. Therefore, financial markets should tie or "converge" to these physical markets at expiry. To the degree that they do not from time-to-time, there will be arbitrage opportunities that market participants will ameliorate by taking offsetting financial and physical positions until prices do converge.

Because banks are in both markets they promote efficient markets and help to maintain pricing relationships—they improve price convergence (future price moving toward spot price at expiry) and price discipline. This is true in both physical and financial commodities markets where banks stand ready to deliver product or take delivery of product in the markets in which they are active. In short, banking entities maintain the efficiency and viability of commodity markets, providing liquidity and helping drive price convergence and alignment.

Banks' trading activities in commodity markets create necessary links among regions, products and delivery of products that foster competitive pricing and efficient allocation of commodities.[4] For example, one bank has electricity transmission capabilities between the Midwest and Georgia, which it can use to "wheel" or move power from an oversupplied and lower-priced area in the Midwest to an undersupplied, higher-priced location in Georgia. This is a low risk activity for banking entities, and helps eliminate price disparities and mitigates supply shortages and price spikes to the benefit of U.S. businesses and consumers.

[3] Ricardo Lagos, Guillaume Rocheteau, Pierre-Olivier Weill, "Crises and Liquidity in Over-the-Counter Markets," *NBER Working Paper* No. 15414 (October 2009).

[4] See, e.g., Scott H. Irwin, Dwight R. Sanders & Robert P. Merrin, Devil or Angel? The Role of Speculation in the Recent Commodity Price Boom (and Bust), 41 J. Agricultural & Applied Economics.

RISK MANAGEMENT SOLUTIONS

Banks have emerged as the credit worthy counterparty to tailor corporate hedging transactions. This customer-facing role is a natural extension to traditional banking services. This client-facing business model creates a primary impetus for being in the physical commodity markets—on behalf of or in support of client needs.

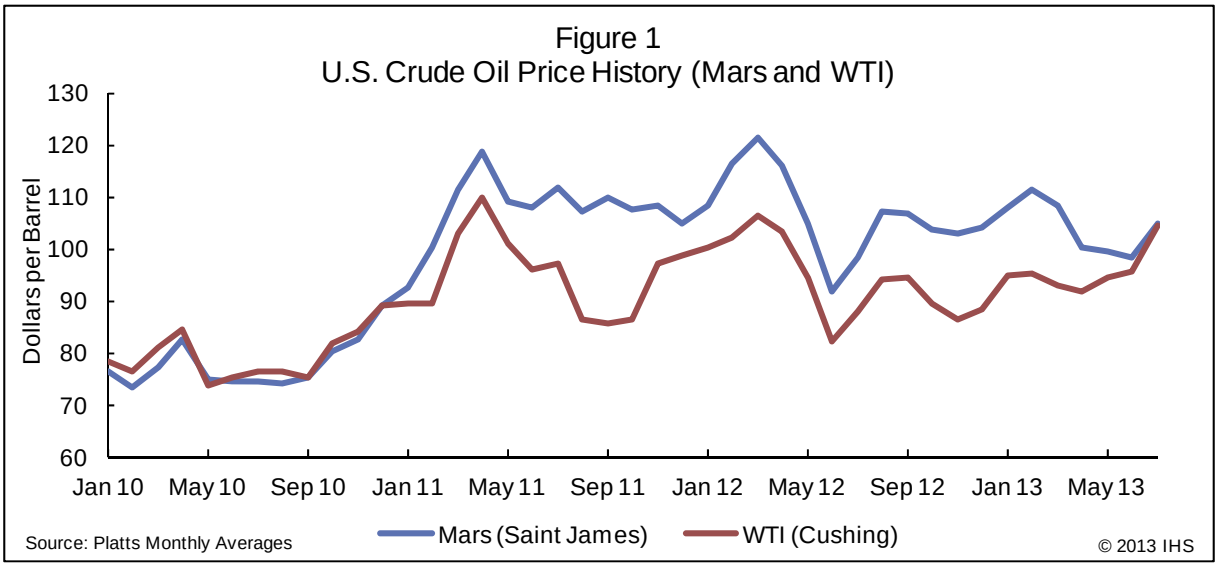
There are many important reasons behind the need for these bank services in the commodities markets. For instance, exchange traded solutions frequently are not available, not sufficiently liquid, not available in sufficient size or not appropriately matching the desired period of time, i.e. they create too much basis risk.

BASIS RISK

Basis risk is the difference between movements in the price of the underlying commodity and movements in the reference price of the specific commodity product being hedged.

For example, as discussed, there are important product, timing and location differences that have real world consequences to a corporate client. We illustrate the basis risk between two crude oils in the following figure, where Mars is a representative Gulf of Mexico light sour crude oil grade. Quality differences and, more importantly, location differences between U.S. midcontinent oil markets create price differences (for wholly different reasons), as seen below in the large spread between January 2011 and July 2013. This basis risk was not expected by many and certainly not to the magnitude that ultimately occurred. In this case, a buyer or seller of Mars crude has much less basis risk with a bank-provided Mars OTC hedge than a WTI exchange hedge.

Figure 1
U.S. Crude Oil Price History (Mars and WTI)



Banks manage basis risk for clients. OTC market makers offer natural gas swaps that are based on locations other than the Henry Hub (e.g. Panhandle basis swap), and this can help eliminate basis risk for clients. To provide this hedge, banks themselves need to be able to physically settle commodity positions in non-benchmark locations in order to achieve efficient pricing. Banks have become active participants in physical commodity markets to provide the risk management services needed by bank customers.

CORPORATE HEDGES

Bank customers seek "good hedges" that will adequately reduce the specific commodity price exposures they face. As discussed, exchange-traded hedge instruments can be too different from the actual exposure of the physical commodity being hedged by customers. In these cases, banks play an important service in providing a bridge between the benchmark exchange commodity stream to the customer non-benchmark commodity stream. Banks are able to provide customized OTC instruments that more closely match the actual physical stream being produced, purchased or processed. In most cases, companies do not physically trade in the same commodity location that is active on exchanges. Exchanges have a very limited number of products with sufficient liquidity.

This is a fundamental service without which markets would be less smooth and investment is at more risk—and thus less likely to be made. In many cases, banks are only able to provide these customized risk management services for these off-exchange physical commodities by active participation in the same physical commodity markets. Only through physical commodity ownership, or the possibility of physical ownership, can banks effectively provide customized OTC solutions.

Providing hedge instruments in specific non-benchmark markets is more complex than simply executing exchange market trades; non-benchmark locations can be "physical settlement" markets—meaning that market participants settle forward contracts through making or taking physical delivery of the specific commodity stream, not through a financial payment—as is common for exchanges. Banks that provide hedging solutions need to be able to make physical settlement in order to be an effective counterparty to the customer.

Risk management solutions often draw from execution in both the financial and physical commodities markets and can involve numerous elements. As a result, banks tend to be stable market participants that serve customers through market cycles, making markets even in times of stress and when other trading participants may be unwilling or unable to trade. Thus banks are a "stabilizer" during times when uncertainty and risk are high. Particularly in less active markets, risk management providers need to develop price expertise, understand market depth and test price response to demand/supply. Further, a bank without the ability to make or take physical delivery would be in an untenable position because it would have widely known obligations to certain market participants without the ability to physically settle, opening the bank to price risks that may be too large to warrant providing the service to the customer in the first place.

A good example of a bank risk management solution that included a price hedge, working capital financing and a fuel supply outsourcing solution, is depicted in the following fuel supply arrangement for a leading airline. In order to fulfill supply obligations, the bank must participate in many different jet fuel markets, buying locally or shipping in from more distant markets.

CASE STUDY: LEADING U.S. AIRLINE JET FUEL SUPPLY ARRANGEMENT

As part of a Chapter 11 restructuring, a leading U.S. airline sought a major bank's help to reduce its operating costs, working capital requirements and balance sheet usage associated with its jet fuel supply. Prior to bankruptcy, the airline managed a large jet fuel supply operation in which it maintained up to a month's inventory, creating significant operational overhead and a need for costly financing. To reduce these expenses, the bank provided the airline a long term contract for delivery of jet fuel, typically one day prior to the airline's daily need to service its fleet. It also provided all logistical support and sold the airline jet fuel at a lower price than it was paying previously. This enabled the airline to reduce its operating expenses, reduce the size of its balance sheet and lower its overall interest expense.

The bank was able to provide the airline with this service because the expertise in jet fuel markets required to price and structure the transaction was developed by actively trading in these markets.

Many of the 80 different jet fuel markets are highly illiquid, and the bank was only able to price the transaction by acting as a market maker, building inventory of physical product, engaging in transactions for related products in multiple markets and engaging in other transactions in anticipation of demand from the airline. These included transactions in forward contracts. Moreover, to obtain the most effective hedge for its own risk management, the bank needed to trade in illiquid jet fuel and the related, but not identical, liquid heating oil markets.

PROJECT FINANCE

Bank-led project finance is critical in the resources sector (including commodity related infrastructure) of the economy for development projects such as power plants, renewable power generation, gas fields and floating storage and regasification units. In many instances, the hedging activities necessary to support these financings are inherently physical in nature. Project finance helps renewable energy project developers finance the construction and operation of wind and solar facilities—services especially critical in deregulated power markets. Banks offer a wide range of services, including:

- Long term fixed price hedges that reduce risk from price volatility,
- Credit extension, with inventory or hard assets serving as collateral to lower the cost of financing, and
- Other hedges such as currency and interest rates hedges.

In order to provide these services banks are active in both the physical and financial markets.

For example, many renewable power developers prefer an integrated set of services, potentially including a tax equity investor, a construction loan and full-service power scheduling into real-time markets. Perhaps most critically, developers also often require a revenue hedge to assure investors that the project will produce a minimum level of cash flow, in order to enable debt financing. In deregulated power markets, some or all of these services are likely to be required by many wind developers before projects can move forward. Absent the presence of banks that can provide these services, wind development in the U.S. would slow overall, undermining a major national objective, and become more costly as individual services are procured from various alternative sources.

As an illustration of this bank role, in terms of expertise and operational capabilities in the power markets, a single bank was able to provide a wind farm developer in Montana an integrated set of services, including a power price hedge to assure the minimum revenue stream. This enabled the extension of credit to move ahead to the construction phase of the project.

To provide the power price hedge (as requested by the wind farm developer), the bank engaged in physical power transactions. In order to provide these services, banks need to be active participants in the physical power, gas and transmission markets to assess forward price and volatility curves, correlations, market depth, availability of hedging alternatives and associated transaction costs.

Active physical market participation enables banks to be ready to respond to client needs with the expertise and execution capabilities to manage the risks associated with a transaction. This includes understanding local markets, not only to price each hedge and manage risks, but also to provide the required power scheduling services. In order to provide these services, banks need to build an inventory of hedging positions prior to each customer transaction and engage in transactions subsequent to each transaction, to manage the banks' risk. Given the significant illiquidity of many power markets, these transactions often include a combination of trades in similar but not fully correlated products. These combined physical and financial commodity trade activities are essential for banks to service wind farm developers. Revenue hedges enable more efficient capital formation for these projects and companies. Without the physical commodity revenue hedges it is unlikely the wind farms could secure debt financing and they likely could not be built.

CASE STUDY: U.S. EAST COAST REFINING

The Delaware River corridor from the Atlantic Ocean to the Philadelphia Metro Area represents the largest concentration of refineries in PADD I (East Coast Region). At its peak in 2002, PADD I contained 1.8 million B/D of crude oil refining capacity, with 70% of that capacity located along the Delaware River corridor. Since 2002, a variety of structural factors gradually made East Coast refineries less competitive, both globally and domestically, resulting in capacity contraction. By 2011 and 2012, the U.S. government had become deeply alarmed at the prospect of PADD I refinery shutdowns in terms of gasoline prices, loss of jobs and increased vulnerability to regional supply disruptions.

The pace of capacity rationalization accelerated in 2010 when Sunoco, Valero and Western shuttered 390,000 B/D of refining capacity. In 2011, Sunoco and ConocoPhillips (now Phillips 66) announced plans to close three additional Delaware River corridor refineries. Two former Valero refineries, located in Paulsboro, New Jersey and Delaware City, Delaware, were purchased by PBF Energy[1] with financing, a working capital loan and physical offtake support from a large U.S. bank. The Paulsboro Refinery operated continuously throughout this period, but the Delaware City Refinery was shut down in November 2009. After 18 months of being idle, the Delaware City Refinery was restarted due, in part, to the physical and financial structure provided by its banking partner. The ConocoPhillips Trainer Refinery was purchased by Monroe Energy, a subsidiary of Delta Airlines. This facility was idled for the first three quarters of 2012, but eventually restarted in late September. In the case of the Trainer Refinery, the crude supply and physical offtake agreement services are being provided by BP,[2] the integrated oil major. The Sunoco Philadelphia Refinery Complex (the largest refinery complex on the East Coast) operated continuously and was purchased by the newly-formed Philadelphia Energy Solutions (PES), a joint venture between The Carlyle Group and Sunoco Logistics. Similar to PBF, the PES arrangement to purchase and operate the Philadelphia Refinery is being supported by a unique combination of physical crude oil supply and product offtake services provided by a bank in addition to traditional financing activities.

TABLE 2
PADD I COASTAL REFINERY SUMMARY (SEPT 2013)
Barrels per Day

Owner	City	State	Capacity	Configuration	Status
Philadelphia Energy Solutions	**Philadelphia**	**PA**	**335,000**	**Light Sweet Cracking**	**Operating, New Ownership September 2012**
Phillips 66	Linden	NJ	238,000	Light Sweet Cracking	Operating
Monroe Energy LLC	Trainer	PA	185,000	Light Sweet Cracking	Operating, Shutdown December 2011 New Ownership April 2012, Restarted October 2012
PBF Energy Partners	**Delaware City**	**DE**	**182,000**	**Medium Sour Coking**	**Operating, Shutdown December 2009 New Ownership June 2010, Restarted May 2011**
PBF Energy Partners	**Paulsboro**	**NJ**	**160,000**	**Light Sour Coking**	**Operating, New Ownership December 2010**
NuStar	Thorofare	NJ	74,000	Asphalt	Operating
NuStar	Savannah	GA	28,000	Asphalt	Operating
Sunoco	Marcus Hook	PA	178,000	Light Sweet Cracking	Shutdown 2011, Converting to LPG Terminal
Sunoco	Westville	NJ	145,000	Light Sweet Cracking	Shutdown 2010, Converted to Terminal
Chevron	Perth Amboy	NJ	80,000	Asphalt	Shutdown 2008, Converted to Terminal
Western Refining	Yorktown	VA	66,000	Heavy Sweet Coking	Shutdown 2010, Converted to Terminal
Hess	Port Redding	NJ	0	Sweet Cracking	Shutdown February 2013, Converting to Terminal Catcracker Only, No Crude Oil Distillation, For Sale

Note 1 - Does Not Include Inland PADD I Refineries (United Warren PA, American Bradford PA, Ergon Newell WV)
Note 2 - Refineries **Bolded in Blue** Utilized Banks for Supply, Offtake and Financial Services

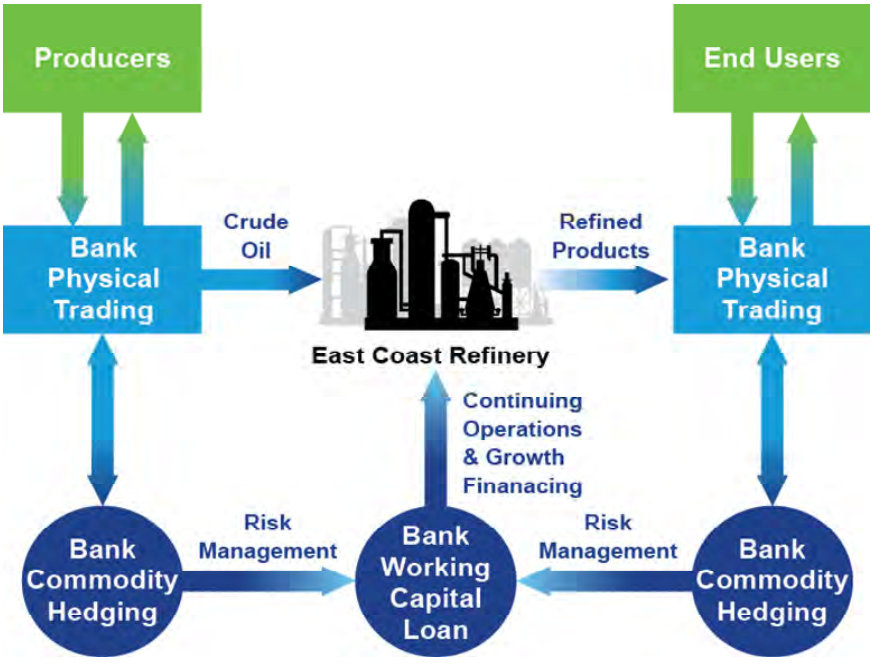
[1] PBF was originally established as a joint venture between Petroplus, Blackstone and First Reserve.
[2] The previous owner Phillips 66 has also entered into an agreement to provide product offtake services.

CASE STUDY: U.S. EAST COAST REFINING CONTINUED

Each of these three cases[3] share several similarities. The former owner of each was a well established participant in U.S. refining industry but had decided to exit the East Coast region due to deteriorating market conditions. In each case, the new owners/operators were a first-time entrant into the U.S. refining sector. Though the specific details of each arrangement vary between the refineries, in two of the three cases a key element of facilitating the deal was the participation of a large financial institution in providing both financial and physical commercial solutions that kept these core infrastructure assets operating. The combination solution developed by the banks for these two cases[4] contained these following core elements:

- *Direct crude oil and feedstock procurement by the bank with commodity ownership transfer to the operating entity at the refinery fence line reducing the balance sheet burden to the newly formed operating entity.*
- *Refined product purchasing and offtake by the bank from the operating entity directly after processing, not only reducing the balance sheet burden to the newly formed operating entity, but also leveraging the physical trading network of the bank to facilitate efficient distribution of the refined product.*
- *An asset-based working capital revolving credit line to support continuing operations and facility upgrades, improving long term competitiveness and viability. Additionally, the banks provided their financial trading services through proprietary hedging instruments allowing mitigation of price risk on both the crude oil feedstock and refined product side.*

FIGURE 2



Source: IHS Energy
30899-6

[3] Four refineries total.
[4] Three refineries total.

CASE STUDY: U.S. EAST COAST REFINING CONTINUED

The combination of these physical and financial services is made possible through industry expertise in physical trading and a well established network of counterparties. The value provided by this combination of services is primarily to reduce the working capital requirements for a nascent company that may not have the balance sheet or credit rating to cost-effectively borrow the capital necessary to fund ongoing operations.

Two of these arrangements led to direct tangible benefits for the public. Three large U.S. refineries were kept in operation, representing 55% of active U.S. East Coast refining capacity. Competition has also increased for U.S. East Coast refining as the number of participants has increased from four to five. Without these new market entrants, and their banking partners, the East Coast refining sector could have been reduced to just two participants. Keeping these large industrial facilities in operation provides high-paying manufacturing jobs for the region in which they operate. Published estimates are that the survival of three of these refineries preserved 2,000 direct jobs while supporting an additional 16,000-20,000 indirect jobs. Because of the working capital freed up by banks, each new operating entity could use its capital to grow or upgrade its investments, potentially leading to even more employment. Additionally, with the continued operation of the refineries, the substantial local and federal tax receipt base provided by the facilities is preserved.

Additional benefits for the general public include lowering absolute gasoline prices by shortening the supply chain for a portion of East Coast refined product demand and reducing the exposure associated with supply chain disruptions by maintaining a diversified supply portfolio. Without these four refineries operating, alternative sources of supply would need to materialize in the form of pipeline transfers from the U.S. Gulf Coast, marine transfers from the U.S. Gulf Coast or to incentivize higher refinery utilization in Europe and marine imports. In each of these alternative supply cases the additional refined product production would need to be incentivized in the form of higher regional prices necessary to cover the operating and logistics costs of that additional supply and longer supply chain.

Recent regional experience with Hurricanes Sandy and Irene further highlights the importance of having a diversified refined product supply landscape and shortening the length of the supply chain in satisfying regional demand. Much of the physical damage to regional petroleum facilities was to the electrical infrastructure and independent storage and import terminals. Local refineries played a pivotal role in minimizing the impact and duration of the supply disruption. All four refineries discussed during this section were able to maintain partial operation during the climate events and were able to return to normal operations within 7-10 days of storm landfall. With the majority of damage concentrated to the independent storage terminals, if 700,000 B/D of area refining capacity had been permanently shut down the supply system shock would have been far more disruptive than what occurred. Without the role of the banks, much of this refining capacity would have been padlocked and inoperative with negative consequences for consumers in the Mid-Atlantic states.

CREDIT EXTENSION

Banks have long been in the business of financing working capital in commodities. Commodities companies often need to access credit that is extended on the basis of the value of the capital invested in their business. Banks extend credit against assets because they are able to value the underlying commodity positions and manage price risk. The provision of risk management services to commodity market customers is a logical extension of this traditional lending practice. Banks are able to provide unique risk management services to diverse commodity market participants due to their credit capabilities and commodities market expertise. Examples include:

"Pure play" market participants such as independent producers that need to "sell forward" their production to finance drilling operations,

- Provision of "over-wing" jet fuel supplies at major airports for a single customer,
- Long-term structured financing and working capital facilities to independent refiners, and
- Financing and inventory support to producers during periods of market upheaval, providing indirect price stabilization.

Banks have traditionally provided financial advisory services and many forms of financing to energy firms for mergers, acquisitions and other large capital transactions. Over the past decade, banks have enhanced their expertise in both the financial and physical segments of the energy markets. They have developed this expertise through the extension of financing and hedging services to their clients, as well as through participation in physical product supply and marketing operations.

For example, some banks have become market participants in crude oil and refined product supply. Expertise gained through financial markets, physical supply, trading and risk management operations have made banks especially qualified to provide a broad range of risk management and intermediation services not otherwise available. The industry expertise gained by banks through their participation in commodity markets gives them the tools to arrange customized financing structures. These structures provide the framework for new market entrants to acquire and sustain continuing operations of capitally intensive energy related assets. Credit extension allows the following key items:

- Client does not have to post cash collateral like they do when hedging with futures which frees up cash for operations, and
- Clients can post non-standard collateral such as assets to support their hedging activity with banks (secured interest in producing properties, air planes, etc.).

Banks can extend this credit because they view the exposure as "right way risk"—when the client owes the bank money it is because the underlying prices have moved to benefit their business. For example:

- A natural gas producer sells future productions – when the natural gas price goes up, they owe the bank money, but their overall business is performing well and they are able to sell the gas at a higher price,
- An airline buys jet fuel hedges – when the jet fuel prices go down, they owe the bank money, but their overall business is performing better as their input costs are now lower.

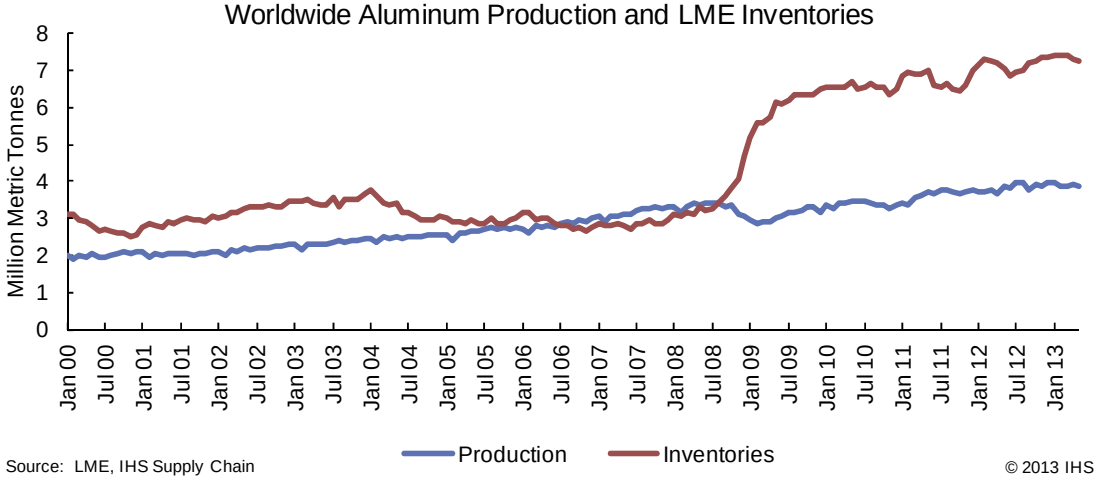
During the recent domestic shale gas boom, a major U.S. natural gas producer approached a bank for a price hedge on its future production. The producer needed funds to expand its drilling operations and develop new gas fields. To meet the customer's needs, the bank helped the producer hedge by purchasing a large volume of long dated natural gas call options from the producer. The bank did not require the producer to post margin as the price of natural gas changed; instead, it took a secured interest in the producer's assets. This permitted the producer to use available cash to immediately develop new gas fields and invest future cash in new gas field developments while ensuring its future production margin was still profitable. The increase in gas supply during this period has led to low prices in natural gas.

CASE STUDY: NON FERROUS MARKET SUPPORT VIA METALS INVENTORY

Financial institutions provide cost effective credit (i.e. inventory-based lending) to their customers that support market prices and "level" production through inventory builds and draws. While reacting to market price signals, banks and other market participants' actions in non-ferrous commodity storage absorb surplus production during periods of rapid demand contraction and then reduce the inventory levels during peak demand. Producers typically do not want to hold excess quantities of inventory and may not be able to do so.

The global aluminum market has been in a surplus supply condition since the recession of 2008-2009. Initially, producers reduced production moderately in 2009. As credit became available again, banks provided a significant service to their metals clients by purchasing aluminum output and providing storage in warehouses. Production stabilized by mid-2010 and began to increase again, while inventories increased significantly, indicating sluggish demand. Global aluminum production declined 6.7% between 2008 and 2009 or by 2.6 million metric tonnes (MMT). Over the same time, visible LME aluminum inventory increased by 2.6 MMT. Without banks willing to finance and hold inventory, the reduction in aluminum production would likely have been twice as severe, potentially reducing future supply. A decline in production would have had a larger negative economic impact as production facilities could have been shut down and there would have been a corresponding loss of jobs and manufacturing output. Even with the stabilizing intermediation from the banks, the strong downdraft in global demand during the 2008-2009 recession resulted in a 35% decline in the LME benchmark cash price of aluminum. The figure below shows the history of production and inventory stocks since 2000.

Figure 3
Worldwide Aluminum Production and LME Inventories



Source: LME, IHS Supply Chain

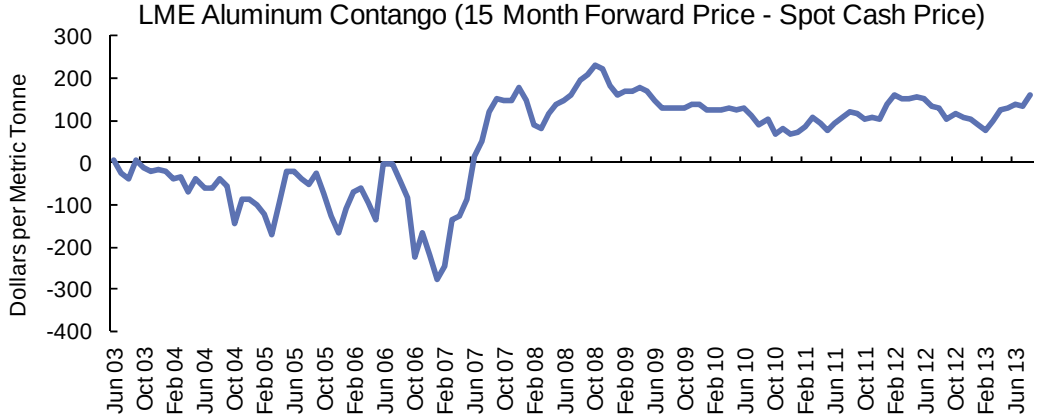
Aluminum inventories have increased markedly due to the convergence of four factors: overcapacity of aluminum production, "contango" market structure where future prices on exchanges are higher than current prices, low interest rates and low storage costs. Through the market contraction of late 2008 and into the recovery the following year, the market environment encouraged the purchase of "excess" production by financing the storage at low rates and hedging the future price risk—an "inventory arbitrage." Trading companies have done this.

The rapid contraction in demand and resulting low aluminum price environment pushed the LME futures market into strong contango. Shown in the following figure, starting as early as 2007, LME 15-month futures price averaged between $100 and $200 per metric tonne above the LME current spot cash price. The storage cost of aluminum typically ranges between $0.45-$0.50 per metric tonne per day in an LME bonded warehouse, or approximately $175 per metric tonne annually. In many cases warehouse owners attract new storage customers with a discount on storage for the first year which can

CASE STUDY: NON FERROUS MARKET SUPPORT VIA METALS INVENTORY CONTINUED

be as high as 50%. Unlike some other commodities, such as petroleum and natural gas, aluminum is relatively easy to store. It does not require specialized facilities with large cost barriers to entry and the higher operational risks associated with handling hazardous or combustible materials. Additionally the high atmospheric corrosion resistance of aluminum allows it to be stored for long durations without degradation of the commodity's physical properties.

Figure 4
LME Aluminum Contango (15 Month Forward Price - Spot Cash Price)



Source: LME

This activity creates a ready store of material in usable form, so that when industrial production recovers and near-term aluminum prices increase there is a depot ready to do business on demand. In this way, the bank helps facilitate an objective/transparent/real-time price signal for all market participants in the form of the forward spreads, as well as the solution to rapid improvement in demand, as contangos narrow and inventories start to be drawn down for use.

INDUSTRY COMPETITION

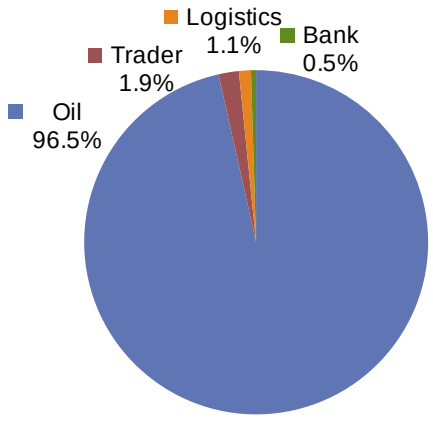
Banks promote greater industry competition in the commodities sectors in two ways: first, as direct industry participants; and second, as providers of financing and risk management services to support the health of small and medium sized industry players that lack the financial resources of the large integrated multinationals.

DIRECT PARTICIPATION

For the four commodities discussed in this report, financial institutions participate primarily in the financial risk management, physical trading and logistics activities of these commodities industries.[5] We classify the asset owners into three groups: production and processing, logistics and trade focused organizations. The groups with the highest level of asset ownership are also the largest players in the physical commodities trading segment. We use the example of U.S. crude oil imports as a proxy for participation in crude oil physical trading.

[5] Several of the larger financial institutions have non-operational equity minority stakes in the hard asset owning entities related to the large financial institutions' merchant banking functions.

Figure 5
U.S. Crude Oil Importers 2008-2012 Average



Oil[1]	8,920
Trading	177
Logistics[2]	105
Bank	44
Total	9,245 KB/D

Source: Energy Information Agency (EIA)

1 - Oil companies includes petrochemical companies
2 - Logistics includes end users, blenders, utility companies

The data show that physical trading of crude oil is largely performed by crude oil producing and refinery owning companies and that the other groups of participants play only a minor role. Although public data is not available to perform a similar analysis for global crude oil production and trade, based on IHS experience, the data analysis would be similar with the largest share of the physical trade of crude oil being performed by producing and processing asset owning entities on the order of 70-75% market share. On the global level the data show that the large trading houses play a more active role in the physical trading of crude oil and refined products. A review of publicly available information on the activities of seven large petroleum focused trading merchants suggest that their involvement or market share is on the order of 10-15% of global crude oil trade.

TABLE 3

Trading Company	Crude Oil Million B/D	Oil Products Million B/D
Glencore	3.2	2.1
Vitol	2.4	3.0
Noble	1.3	1.4
Gunvor	1.0	1.5
Trafigura	0.8	1.2
Mecuria	0.8	0.8
Phibro (Occidental)	--	--
Koch S&T	0.2	0.3
Total	9.7	10.3
Global Total	73.9	79.0
% of Global Total	13.1%	13.0%

The remaining market share (10-20%) is comprised of smaller merchants, dedicated brokers and financial institutions with sufficient balance sheet strength to participate in the capital intensive business of commodities trading. Our empirical analysis does confirm that these sectors are far more competitive than some believe. For example, the largest natural gas producer in North America, ExxonMobil, has just a 5% market share of production.

TABLE 4
COMMODITIES INDUSTRY SEGMENT COMPETITIVENESS

Industry Segment	Approximate # of Participants	Largest Participant	% Market Share	Herfindahl Hirschman Index
NA Crude Oil Production	200	ExxonMobil	8.5	0.037
NA Crude Oil Pipelines	50	Plains All American	12.7	0.042
US Crude Oil Imports	75	ExxonMobil	12.9	0.059
NA Refineries	60	Valero	10.5	0.054
NA Refined Products Pipelines	30	Magellan	9.1	0.043
NYH Petroleum Storage	15	IMTT	19.7	0.133
HSC Petroleum Storage	11	Kinder Morgan	30.2	0.160
US Refined Product Imports	250	Valero	11.7	0.049
NA Natural Gas Production	500	ExxonMobil	5.0	0.023
NA Natural Gas Pipelines	160	Kinder Morgan	14.0	0.044
NA Natural Gas Storage	130	Dominion	9.0	0.031
NA Natural Gas Marketing	30	BP	18.0	0.076
Bauxite Production	> 6	Rio Tinto	18.3	0.065
Alumina Production	> 8	Alcoa	16.3	0.090
Aluminum Production	> 9	Chalco	8.9	0.031
Aluminum Storage	30	C. Steinweg	24.5	0.163

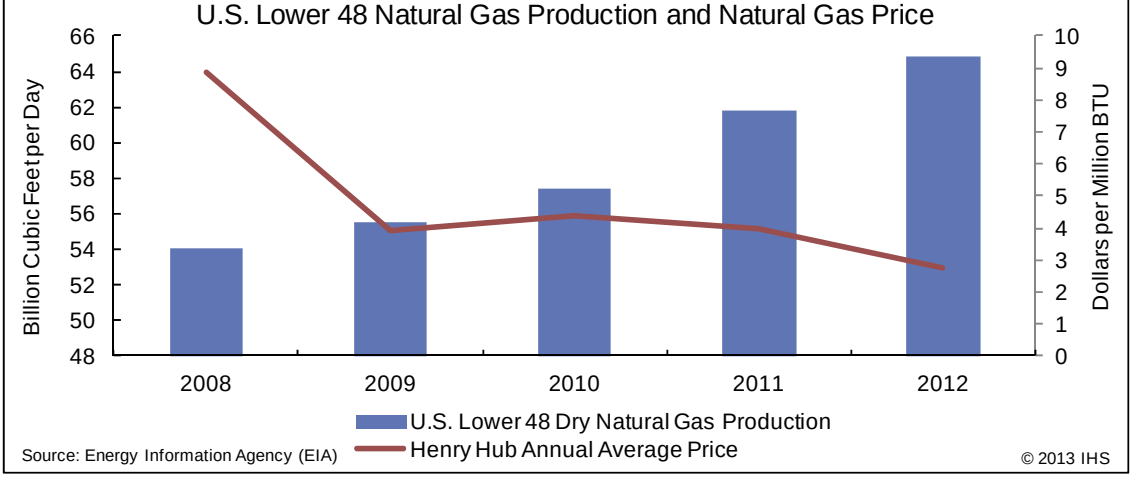
SUPPORTING THE HEALTH OF SMALLER INDUSTRY PLAYERS

Banks promote greater industry competition in the commodities sectors by providing financing and risk management services to support the health of small and medium sized industry players that lack the financial resources of the large integrated multinationals. The U.S. natural gas producers are one such example.

CASE STUDY: U.S. NATURAL GAS PRODUCTION

The figure below shows the total U.S. gas production and the average annual U.S. natural gas price over the last five years.

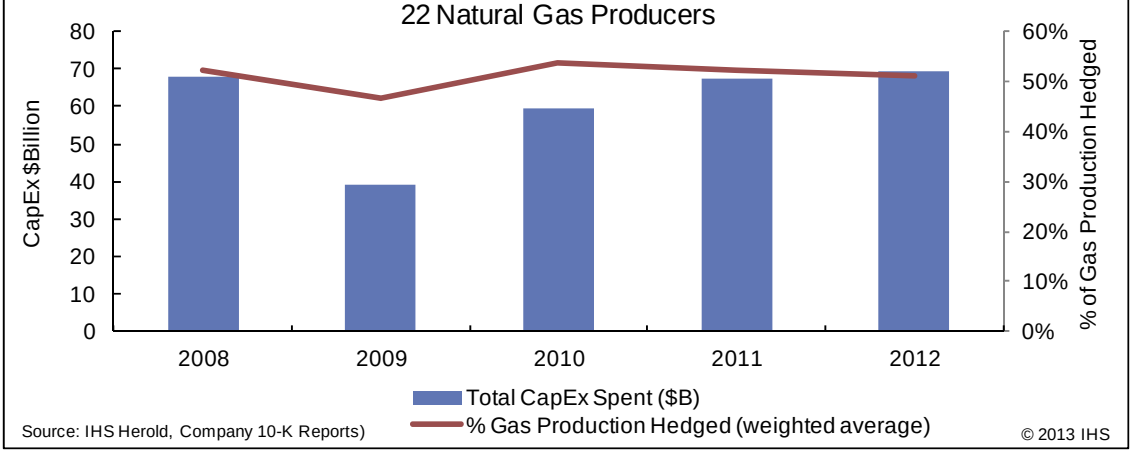
Figure 6
U.S. Lower 48 Natural Gas Production and Natural Gas Price



Source: Energy Information Agency (EIA)

While total gas production continued to increase over the last five years, the spot natural gas price sharply decreased from its 2008 level and continued to decline below $3 per Million BTU (MMBTU) in 2012. In part, these small natural gas producers were able to withstand the prolonged depression in gas price and continue to invest in shale gas development through continued cost reduction and improved well productivity. But they bought the time to achieve these improvements by hedging to lock in prices for future gas production at a fixed price in advance, thereby reducing uncertainty associated with future earnings and guaranteeing a minimum return on investment. This enabled companies to plan their capital investment with confidence and execute drilling programs. The figure below shows the percentage of gas production hedged among major U.S. gas producers and their total capital investment over the last five years.

Figure 7
Capital Expenditure and Gas Production Hedged
22 Natural Gas Producers



Source: IHS Herold, Company 10-K Reports)

CASE STUDY: U.S. NATURAL GAS PRODUCTION CONTINUED

Gas producers hedge about one-half of their production. In 2009, there was a drop in gas production hedged (five percentage points drop compared to 2008) with a 43% reduction in capital investment for these companies. While the natural gas price continued to decrease after initial decline in 2009, prices in 2013 have risen from the lows, and capital investment has completely recovered, exceeding the pre-crash level for the first time in 2012.[1]

For example, Chesapeake is a leading U.S. gas producer with more than 3 Bcfd of gas production. Since 2007, the company raised a much needed $6 billion for development through Volumetric Production Payment (VPP).[2] *In VPP transactions, sellers (usually natural gas producers) agree to deliver a certain amount of production over a set period of time, ranging from 5-15 years. Buyers (usually large banks) pay a fixed price for gas, as a lump-sum payment in advance. The seller of the VPP is responsible for delivering gas up to the agreed upon amount and the operating cost to produce the gas. Sellers can use the upfront cash payment to fund their drilling program, make acquisitions or perform other activities to benefit their shareholders. This credit extension has been important to the development and production of domestic resource plays. The banks' source of repayment in this transaction is the physical delivery of future gas production.*

[1] We picked large and medium independent exploration and production companies according to IHS Herold classification, that are majority gas producers (more than half of their production is natural gas). Total of 22 companies were included that had five years of historical data. They are, in alphabetical order, Anadarko Petroleum Corp., Cabot Oil & Gas Corp., Chesapeake Energy Corp., Cimarex Energy Co., Devon Energy Corp., EnCana, EOG Resources, Inc., EP Energy LLC, Forest Oil Corp., Linn Energy LLC, Newfield Exploration Co., Noble Energy, Inc., Pioneer Natural Resources Co., QEP Resources, Inc., Quicksilver Resources, Inc., Range Resources Corp., Rosetta Resources Inc., SandRidge Energy, Inc., SM Energy Company, Southwestern Energy Co., Talisman Energy Inc., Ultra Petroleum Corp. CapEx represents total finding and development cost from IHS Herold Financial and Operations Database.

[2] IHS Herold Financial and Operations Database; IHS Herold M&A Transactions Database.

III. THE INTERPLAY OF PHYSICAL AND FINANCIAL MARKETS

In this section we illustrate the importance of linkages between the physical and financial segments of a commodity market.

For example, the U.S. natural gas industry has experienced fundamental changes in recent years. Fueled by growth in unconventional supply, principally shale gas production, U.S. gas production increased 20% to 65 billion cubic feet per day (Bcfd) in 2012 over production in 2008. Shale gas production accounts for much of this growth (i.e. 44% of total production, compared to 2% in 2000). This dramatic increase in gas production in just several years brought unprecedented level of industrial activity, spurring close to $90 billion dollars of capital investment in total unconventional oil and gas development, creating jobs and tax revenues for the U.S. Shale gas also had a significant impact on the nation's energy policy and regulatory landscape. For example, regulators for gas importation through LNG terminals must now address gas export through LNG liquefaction plants.[6]

The impetus behind this growth in shale gas production is not household name energy companies. Rather, much of the original innovation and activity was led by smaller companies that tend to be pure play natural gas producers (as opposed to larger integrated companies, which not only produce oil and gas but also own pipeline, refineries and retail gasoline stations). The small gas producers' ability to invest in drilling and completing wells to continue producing natural gas hinges on the price for their main product, natural gas.

ROLE OF PHYSICAL MARKETS FOR HEDGING

There are more than 120 natural gas delivery locations—hence, pricing points—in the U.S.[7] Depending on the natural gas supply and demand balance in a local market and the available infrastructure, such as gas plants and pipelines, the price at certain gas delivery locations can behave quite differently from a central clearing price. While Marcellus gas tracked the Henry Hub benchmark price closely for the first quarter of 2012, the local gas price started diverging significantly from the Henry Hub price movement, trading as much as $2 below the Henry Hub price in the summer of 2013.[8] Rapid ramp up of gas production in the Marcellus area and the lack of pipeline capacity to take this gas into the market triggered this change. In fact, the high-volume Marcellus production might have completely altered the local gas market such that the local gas is expected to trade at a discount to the Henry Hub price for the foreseeable future.[9]

Naturally, local producers want to hedge their production to protect themselves against unexpected price swings and/or prices that would undermine their investments. Counterparties require knowledge of the many local markets. However, potential counterparties may be reluctant to take on price risk due to the uncertainty and lack of visibility of local pricing. Hedging production volume can become either very expensive or even unavailable. In order to offer competitive hedging solutions to natural gas producers, counterparties need direct experience with local markets, such as having the option to buy the gas at local delivery points. Counterparties with a physical footprint can be an ideal partner for these transactions. They have not only have expertise to construct financial transactions but also have a stake in the local physical markets.

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[6] America's New Energy Future: The Unconventional Oil and Gas Revolution and the U.S., IHS, October 2012, EIA.
[7] "Daily Index Graph and Chart Generator," NGI Intelligence Press Inc., http://intelligencepress.com/data/daily/, retrieved 21 August 2013
[8] "Spot natural gas prices at Marcellus trading point reflect pipeline constraints," U.S. Energy Information Administration Today in Energy, July 23, 2012, retrieved August 21, 2013.
[9] "IHS CERA North American Monthly Gas Briefing: Supply Surprises," IHS CERA, July 2013.

Another challenge for counterparties is the increasing need to customize hedging transactions. For example, while producers may want the flexibility to lock in a selling price for their gas in the long run (e.g. three plus years), most of the standard forward contracts transacted in the open exchange tend to be shorter in duration. Transaction data from Chicago Mercantile Exchange (CME/NYMEX), the largest commodity exchange along with Intercontinental Exchange (ICE), shows that 80% of Henry Hub Natural Gas Financial Futures volume traded were within a two-year maturation date for a five-day trading period in August 2013.[10] Lack of liquidity in long-dated hedging solutions in open exchange requires private transactions with institutions that are willing to provide these longer term hedging solutions. VPP transactions serve as a good example that meet the needs of long term hedges, as the buyer and seller can customize the duration of the contract period. Most VPP transactions are at least five years in duration while some VPP transactions cover more than a ten year period. In the case of large VPP transactions in Asia, which effectively serve as long term supply contracts, the contract duration is reported to be as long as 25 years.[11] The critical ingredient in VPP transactions is that the buyer has a physical ownership interest in the natural gas resource, which will ultimately be monetized through gas sales.

As banks offered customized risk management solutions to their natural gas clients, they also became actively involved in physical trading of natural gas.[12] Physical trading of the commodity for these banks allows them to avoid prematurely offloading their financial positions due to lack of physical volumes; they compete against trading companies who can engage in both physical and financial trading of commodities.[13] Banks mitigate the risk they take as the counterparty to these hedging transactions by fully participating in both financial and physical commodity trading.

The U.S. natural gas industry relies on commodity hedges and financing to mitigate their exposure to volatile prices and to raise money to pay for their drilling programs. Risk management lowers the cost of capital for natural gas producers and makes the natural gas investment less cyclical and sensitive to short term gas price movement. Just a 10% reduction of capital investment by 22 natural gas producers would mean a reduction of $7 billion dollars of investment, translating into a reduction in U.S. gas production of 2.3 Bcfd, a 3% average reduction over the next three years. In the long run, this raises the marginal cost of supply for producers and would raise natural gas prices. Raising cost of capital by 1%, measured in weighted average cost of capital (WACC), for these gas producers could raise the long run marginal cost of supply by about 20 cents per MMBTU.[14]

[10] "Henry Hub Natural Gas Last Day Financial Futures," CME Group, http://www.cmegroup.com/trading/energy/natural-gas/henry-hub-natural-gas-swap-futures-financial_quotes_settlements_futures.html, retrieved August 22, 2013. Transaction volume by maturity date was not available from the Intercontinental Exchange (ICE): "Product Search," ICE. https://www.theice.com/productguide/Search.shtml?productGuide=&advancedKeyword=Henry&contractType=Futures&productSpec.micCode=IFED, retrieved 21 August 2013

[11] IHS Herold M&A Transactions Database.

[12] "U.S. Natural Gas House of the Year: JP Morgan," Risk.net: Financial Risk Management News and Analysis, "http://www.risk.net/print_article/energy-risk/feature/2179152/natural-gas-house-jp-morgan," May 23, 2012, retrieved August 21, 2013.

[13] "Order Approving Notice to Engage in Activities Complementary to a Financial Activity," Federal Reserve System internal memo, http://www.federalreserve.gov/boarddocs/press/orders/2003/20031002/attachment.pdf, October 2003, retrieved August 19, 2013.

[14] IHS analysis.

AGGREGATE BANK FINANCIAL + PHYSICAL RISK PROFILE

As described in the prior sections, a bank's ability to make markets to clients who require tailored hedging solutions is greatly enhanced by being active in local physical markets as well as financial markets. A critical component of being able to trade both financially and physically is that a bank's overall risk profile is smaller when trading both. At least one bank interviewed for this study pointed to examples of how its own risk profile has reduced since it ramped up physical trading. Having a fulsome physical trading ability generally includes the ability to store and ship those physical commodities in addition to making or taking delivery of the commodity. These abilities enable a bank that has provided a financial hedge to a client in a lightly traded location, or commodity grade, to have a natural backstop to that financial risk.

For example, the U.S. natural gas market regularly sees short term spikes in a particular location due to supply and demand imbalances often caused by unpredictable weather related events. When a price spike occurs, a bank that has the ability to ship gas to that location via a pipeline can profit on physical delivery to offset financial contract losses and, by bringing supply into the market, may also limit the severity and duration of the sales spike. When banks contract storage and transportation contracts, they often do so as effective "insurance" policies. That is, they pay fees for those contracts, but then obtain the optionality to inject or withdraw from storage, or move gas from one location to another. This optionality reduces the overall risk profile of the transactions which the bank has entered with clients. The benefits of these agreements are clear. It enables the bank to make both physical *and* financial prices to its client base at the lowest possible transaction cost while greatly mitigating the residual risk left with the bank. In other words, it enables effective portfolio management.

Without the insight and offsetting risk gained from trading in physical markets, banks would either:

- Stop providing financial solutions to specific locations or commodity types and grades, or
- Materially increase the cost of providing financial solutions.

Either of these would impact the ability of clients to manage their risk leading to higher uncertainty around producer projects and lower investment, as well as higher costs to consumers. Additionally, as discussed, option b) would lead to higher risks remaining with banks—an undesirable outcome.

IV. REGULATORY OVERSIGHT

Banks operate under a different, more complex and, in many ways, more rigorous regulatory framework than commercial companies that conduct extraction, refining and distribute energy, metals and other commodities. Entities that are neither bank holding companies nor foreign banking organizations may enter into new commodities activities or acquire an entity that engages in such activities with few requirements other than to meet the licensing requirements that all market participants in jurisdictions that require a license must meet. In the case of a bank holding company that is a financial holding company (FHC), prior to engaging in commodities activities or acquiring an entity engaged in commodities activities, the FHC must first determine whether such activity or acquisition is permissible under the Bank Holding Company Act of 1956, as amended, and the relevant rules and regulations of the Board of Governors of the Federal Reserve System (the Federal Reserve). In some cases, the determination of whether such activities or acquisitions are permissible may require that the FHC first obtain the approval of the Federal Reserve. While FHCs are subject to the laws and regulations that govern the commodities activities of all market participants, the commodities activities of FHCs are subject to additional levels of regulatory and supervisory oversight by the banking regulators.

Aside from determining whether the activities are legally permissible, financial firms are held to a higher regulatory standard in two key aspects:

- Their activities must not pose unacceptable risks to the safety and soundness of depository institutions or the financial system in general,[15] and
- Regulators have the authority to intervene in the bank's business, as needed.

There are other distinctions as well but these two provide important context to understand the role of financial holding companies in the commodities sectors of our economy.

REGULATORY ENVIRONMENT

Several regulators are involved with various aspects of the trading of physical commodities for financial holding companies. Chief among these regulators is the Federal Reserve, which has both broad supervisory and regulatory authority over the players in the financial system.[16] For both financial holding companies and nonfinancial institutions, the Securities and Exchange Commission (SEC) and Commodities Futures Trading Commission (CFTC) also play roles in the regulations of the trading of commodities and commodities-linked financial products.

[15] U.S. Congress. Senate. Committee on Banking, Housing and Urban Affairs. Subcommittee on Financial Institutions and Consumer Protection. *Examining Financial Holding Companies: Should Banks Control Power Plants, Warehouses, and Oil Refineries.* Randall Guynn, July 23, 2013.
[16] http://www.federalreserve.gov/pf/pdf/pf_5.pdf

FEDERAL RESERVE BOARD

The supervisory authority of the Federal Reserve is unique. It is allowed to monitor, inspect and examine any of the banking organizations in its purview to assess their financial condition and compliance with laws and regulations. Through this supervisory role, the Federal Reserve has authority to take formal or informal actions to have any problems corrected. This supervisory authority is distinct from its regulatory authority to set rules and guidelines governing the operations and activities of the banking entities it oversees.

This supervisory authority creates a significantly different and additional level of oversight of bank holding companies engaged in commodities trading compared to non-financial firms.

In order to ensure the safety and soundness of both the bank holding company and the financial system as a whole, the Federal Reserve requires appropriate risk management practices for credit, market and operational risks. The physical commodities activities of FHCs are also subject to limits based on either the FHC's risk based capital or consolidated assets, depending upon the relevant legal authority by which it is conducting or investing in physical commodities related activities.[17]

SEC AND CFTC

The SEC and CFTC are responsible for regulating the swaps markets in the U.S. Specifically the SEC's mission is to:

> *"Protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation."*[18]

While the CFTC's role is to:

> *"Protect market users and the public from fraud, manipulation, abusive practices and systemic risk related to derivatives that are subject to the Commodity Exchange Act, and to foster open, competitive, and financially sound markets."*[19]

While both have similar missions, each plays a separate and distinct role in the financial markets. Generally the SEC has authority over "security based swaps" while the CFTC has authority over other swaps.[20] The SEC and CFTC act jointly to set regulatory boundaries between the two. Both also work in concert with the Federal Reserve as needed. Both regulators have enforcement authorities to ensure against fraud and provide for orderly, fair and competitive markets. The SEC and CFTC play leading roles in the investigation and enforcement actions against entities alleged to have engaged in price manipulation.

[17] U.S. Federal Reserve System, Citigroup Inc., Order Approving Notice to Engage in Activities Complementary to a Financial Activity (2003). See also 12 U.S.C. §(o).
[18] http://www.sec.gov/about/whatwedo.shtml
[19] http://www.cftc.gov/About/MissionResponsibilities/index.htm
[20] A swap typically is the contractual exchange of cash flows between two parties. The exchange can be over-the-counter (OTC) or securities based. OTC swaps involve the direct exchange of cash flows between two parties while securities based swaps are the exchange of cash flows through a financial instrument such as a derivative.

The comprehensive regulatory oversight by the Federal Reserve, SEC and CFTC of banks, bank holding companies and their financial and nonfinancial affiliates, provide a different regulatory environment than for other commodities market participants. The role of the Federal Reserve in particular, and especially in concert with the CFTC and SEC, allows it to undertake examinations and set capital standards to ensure that these companies are not posing a risk to themselves or the broader market. Other non-banking entities do not need to conform to the same requirements. Though non-banking firms need to comply with individual regulators, including the SEC and CFTC, depending on the nature of the transaction they are engaging in, there is no similar level of comprehensive regulatory or supervisory oversight relative to the banks. The table below summarizes the regulatory oversight each are subjected to related to physical commodities trading.

TABLE 5
REGULATORS FOR COMMODITY TRADING BY BUSINESS

Risk	U.S. Banks, holding companies and affiliates	Other U.S. Public Companies	Private/International Trading Firms
Market	Fed, SEC, CFTC, others	NA	NA
Credit	Fed, SEC, CFTC, others	NA	NA
Operational	Fed, SEC, CFTC, others	OSHA/EPA/others	OSHA/EPA/others
Public Disclosure	SEC filings of material risks	SEC filings of material risks	SEC filings of material risks

Based on the supervisory and regulatory authority of the Federal Reserve and other bank regulators, banks have a much higher degree of oversight than either private trading firms or publicly traded non-bank companies.

V. CONCLUSIONS

This study explains and illustrates the important role that banks play in the commodities sectors of our economy. We outline the industry structure and the role of financial intermediaries in providing access to capital and hedging services, and the interplay between the physical and financial segments of the markets in these commodities sectors.

The commodities and resources sector of the U.S. economy is very large and important. For example, the U.S. oil and gas industry alone directly employs 2.6 million people and contributes $1.2 trillion to the U.S. GDP, which represents 8% of our economy. Banks play an important business role in this sector of our economy. They directly provide capital, and assist in the raising of capital, for our commodities and resource producers, converters and manufacturers and end users.

As a natural extension, banks also help these same companies manage their commodity price risks through hedging, and other related risk management services, to enable planning, financing and sustaining the large capital projects required in these industries over a full business cycle. Commodity and resource producers face large, natural "long" positions. Companies that are end users of commodities and resources face large, natural "short" positions. Companies that convert or manufacture commodities and resources face both natural long and short positions that are not perfectly correlated or off-setting.

Banks provide important risk management and intermediation services in connecting buyers and sellers of risk across locations, time periods and product qualities. Through non-benchmark physical market participation, banks provide the long-dated revenue assurance necessary to effectively fund projects in commodity markets, such as power generation and oil and gas field development. Banks provide credit extension of the assets and inventory of bank customers. Banks also play a role in the sale of energy supply assets that may otherwise be shuttered. Structured financing arrangements, including feedstock supply, product offtake and working capital arrangements are made possible through combined bank financing capabilities and physical commodity participation.

In order to fulfill bank services (e.g. financing and hedging) in the commodities and resource sectors of the economy, banks must execute supporting trades in the financial and physical commodities markets. Banks assume exposures that their clients are unwilling or unable to manage. They manage this risk through offsetting client positions and by using futures or OTC instruments. In some cases these trades can be executed solely through financial markets, in other cases they may need to be executed through the physical markets; there are also cases where the best available execution is through a combination of both financial and physical markets. Thus, banks need to be able to physically settle commodity positions in local and non-benchmark locations.

Active participation in physical commodities provides visibility into product and market dynamics such as pricing and liquidity, movements and other operational and commercial information critical to effectively price and mitigate risk. Increased interplay between the financial and physical segments of a market for any given commodity increases the commodity's market liquidity—benefits of this activity include increased commodity price efficiency, greater volumes available for business and greater "degrees of freedom" for market participants when they need to transact. Producers and consumers of commodity products benefit from improved market efficiency via reduced transaction costs and improved price discipline. The functioning of this system—by facilitating investment, managing risk, ensuring employment and serving consumers—works to the great benefit of America's economy.

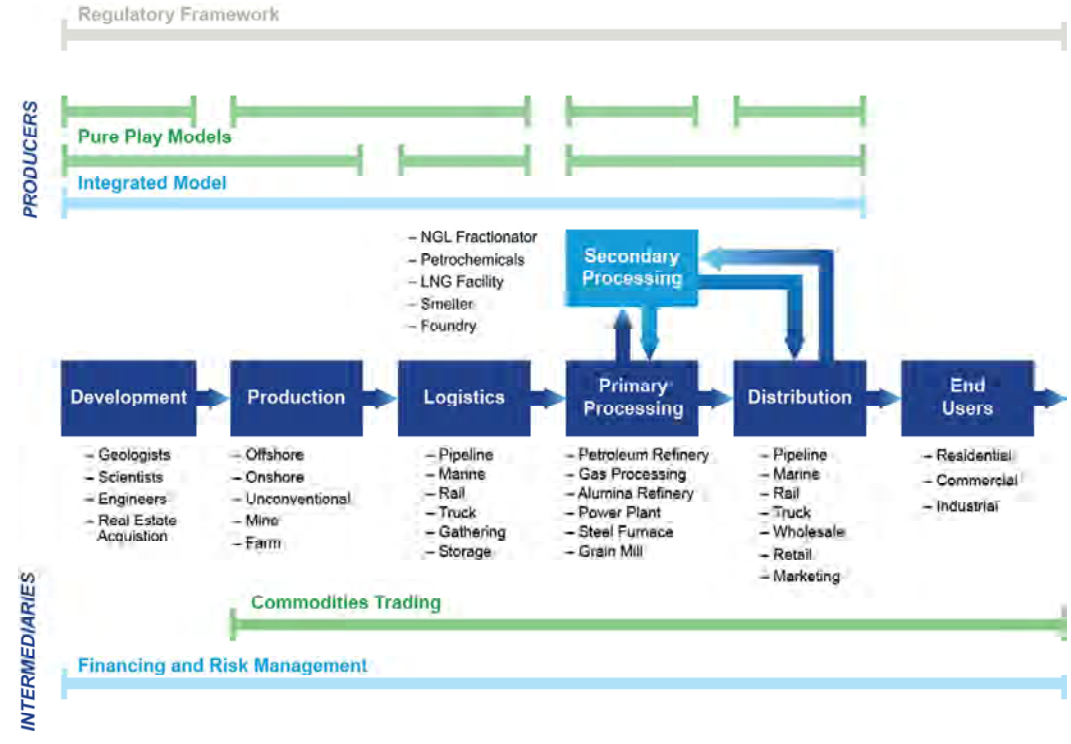
APPENDIX A: COMMODITY INDUSTRY STRUCTURE

This appendix provides an overview of four commodity industries including structure, commodity trading and examples of risk management. The scale of the industries is highlighted and the different types of players are discussed along with quantification of market share in different supply chain segments.

The industry structures of many commodities value chains are similar despite having vastly different end products and target consumers. For the purposes of this report, we have grouped the supply-side participants involved in the commodities value chain into two groups:

- The **producer** group is responsible for constructing and operating assets involved in producing, processing and distributing the commodities. The producer group can be further defined as integrated, where the producer owns and operates each segment of the value chain, or as pure play where the producer specializes in a specific sector or segment of the value chain.
- The second participant group, the **intermediaries**, is responsible for ensuring that a market framework exists to support growth, trade and a competitively balanced market environment. This group includes but is not limited to financial intermediaries such as banks.

FIGURE 8



Source: IHS Energy
30899-4

This appendix covers four specific commodities chains: crude oil, refined products, natural gas, non-ferrous metals. The discussion includes a physical asset-based description of the commodities value chain and describes the participants as well as how the producing and intermediating groups operate.

CRUDE OIL

Most consumers interact with petroleum by filling their vehicle with fuel at the local gas station. The relative ease of this activity largely insulates the public from the scale, complexity and resources, both human and financial, required to connect and drive the global crude oil and refined product commodity chain.

Global consumption of liquids[21] currently stands at 91.7 million barrels per day (B/D),[22] of which 85% consists of crude oil and condensate.[23] Crude oil represents the largest global commodity flow, both in terms of consumption and global trade. To put this in financial terms, the market value of the crude commodity chain, at a benchmark price of $100 per barrel, equates to more than USD$2.9 trillion annually. Additionally, the crude oil marketplace features large physical distances between producing, processing and consuming regions. The size of the marketplace, the balance sheet required to finance crude oil transactions, the geographic distance between buyers and sellers and the portability of liquid petroleum have facilitated a global network of producers, consumers, traders and financiers to assist the process of bringing this energy source to the consuming public in a cost efficient manner.

SIZE OF THE NORTH AMERICAN CRUDE OIL PRODUCTION INDUSTRY

Driven by the U.S., North America is the largest per capita crude oil consuming region in the world with total crude oil demand of 17 million B/D or 22% of the global total. With crude oil production of 9.9 million B/D and growing, North America (the U.S. and Canada together) is the third largest crude oil producing region behind the former USSR and the Middle East, with the U.S. and Canada ranked third and fifth in terms of annual crude oil production. Essentially, all North American production is consumed within the region, the difference between North American production and demand is supplied with imports from all regions of the globe.

Given the role of crude oil in meeting North American energy demand, and the position of the U.S. as the largest importer of crude oil,[24] North America ranks first, and occasionally second, in terms of the number of active drilling and production rigs, number of active wells, miles of gathering pipelines, miles of crude oil trunk pipelines, crude oil storage volume and crude oil importation capacity.

The crude oil production portion of the business is commonly referred to as the “upstream” sector of the crude oil complex and contains several distinct segments:

- **Exploration and Development** involves the acquisitions of land and mineral rights, non-invasive testing to assess the resource potential and the drilling of exploratory wells to confirm the presence of commercial hydrocarbon deposits. Once a resource basin has been characterized as commercially viable, more outside capital, typically supplied by banks, and other resources are allocated to the engineering and constructing of permanent production facilities.

[21] Liquids defined as crude oil, condensate, natural gas liquids (NGL), biofuels, Fischer-Tropsch liquids and processing gains.
[22] IHS CERA Global Liquids & Refined Product Supply & Demand, August 2013.
[23] Referred to as simply crude oil for this report.
[24] China is likely to overtake U.S. as the largest importer of crude oil by the end of the decade.

- **Production** involves the engineering, construction, commissioning and operation of facilities. Depending on the nature of the asset involved and the size of the potential hydrocarbon reservoir, the capital required could range from several million to tens of billions of dollars per project. The operational life of the asset can range from five years for wells with rapid production decline profiles to 30 years or more for large deposits with superior geological conditions. Large upstream projects can involve a multi-billion dollar upfront capital expenditure with financial payback taking place over decades. The inherent price variability of the commodity being produced requires the entities involved in the production to have sophisticated risk management tools and sufficient hedging to protect the investment payback against downside price risk, or to be of super-major scale, or both.

- **Logistics** is the interface segment of the upstream sector also referred to as "midstream", and involves transporting crude oil from the wellhead to demand centers. Gathering systems typically involve either smaller pipelines that aggregate crude oil production into large comingled common streams or tanker trucks that collect fixed volumes of crude oil from individual leases for transport to central collection locations. Long distance transportation systems are used to bridge the geographic distance between producing and consuming regions and can involve pipelines, marine vessels and tankers, as well as rail.

The participants in the upstream sector can be classified into one of the following groups:

- **Global Integrated:** Participates in the full petroleum complex commodities chain (upstream, midstream, and refining or "downstream") and has global operations (e.g. ExxonMobil, Shell, Chevron and BP).

- **Regional Integrated:** Participates in the full petroleum complex commodities chain with focused operations in select regions (e.g. Cenovus, Petrobras, Repsol, Statoil, Sasol and Suncor).

- **Independents:** Large, medium or small based on production and processing capacity and focused on specific sectors of the petroleum complex (production, logistics, refining) (e.g. Apache, ConocoPhillips, Devon, Energy Transfer Partners (ETP), EOG Resources, Marathon Oil, PBF, Phillips 66, Occidental, Carrizo Oil & Gas, Plains All American, Rex Energy, Matador Resources and Valero).

- **National Oil Companies:** Integrated or independent (usually integrated), often with a monopoly position in the home country and may receive and provide substantial direct state support (e.g. PDVSA, PEMEX, Saudi Aramco and Iranian National Oil Company).

Based on 2012 data,[25] North American crude oil production based on these characterization groups was the following:

[25] IHS Energy Insight Herold 2012 Upstream Performance Review (U.S. and Canada).

TABLE 6
NORTH AMERICAN CRUDE OIL PRODUCTION MARKET PARTICIPANTS

	Number of Participants	Typical Production	% of NA Production	Approximate 2012 Production
Globally Integrated	< 5	> 200,000 B/D	16%	1.6 Million B/D
Regionally Integrated	10 - 15	> 100,000 B/D	15%	1.5 Miilion B/D
Large Independent	15 - 20	> 100,000 B/D	42%	4.2 Million B/D
Medium Independent	20 - 50	> 10,000 B/D	14%	1.4 Million B/D
Small Independent	100+	< 10,000 B/D	13%	1.3 Million B/D

Source: IHS Energy Insight Herold 2012 Upstream Performance Review (U.S. and Canada)

Small and medium sized independents number more than 150 companies and account for more than a quarter of North American production. When the large independents are included the share of production rises above two-thirds. Because there are widely divergent sizes between the largest and smallest market participants, their incentives and support requirements differ accordingly. Although not exclusively, the largest and most integrated participants typically have less need for external financing and logistics support.

Smaller participants focused on a specific sector of the industry often do not have the means to build up these internal skills or find it more effective to outsource these skills and thus rely on the participation of intermediaries. These external parties provide key functions such as financing, debt management, price hedging and physical offtake of production, without which the smaller participants would struggle to compete effectively. An example of the role that banks play in supporting small to medium independent producers is provided in the Section II, Case Study on U.S. Natural Gas Production.

Another example of where the banks provided support (in this case debt-financing and the underwriting of a public stock offering) to a medium independent producer is with Mitchell Energy & Development Corporation. The combination of a key technology behind the unconventional oil and gas revolution, slick water hydraulic fracturing, was pioneered by Mitchell Energy & Development Corporation, a medium independent producer who spent decades experimenting prior to realizing commercial scale production using this technique. Along the way, Mitchell Energy was supported by numerous financial and physical intermediaries allowing the company to focus on the Barnett shale development and improving these new production techniques.

Banks play a key role in assisting smaller independent participants to compete by assisting with logistics offtake, marketing and trading services. Bringing crude oil to refineries is a vital link in the oil supply chain. The dominant mode of crude oil transportation in North America is by pipeline and pumping stations, which over a century of experience has proven to be the most energy efficient and cost effective means of moving large volumes of a liquid commodity. Estimates are that over 70% of crude oil production moves by pipeline and that North America contains over 100,000 miles of active crude oil pipelines.[26]

[26] Recent statistics from the U.S. PHMSA and Canada CEPA estimate 210,000 miles of hydrocarbon liquid pipelines in North America used for crude oil, refined products and natural gas liquids.

Similar to the upstream sector, the midstream logistics sector contains both integrated players (owning assets in both production and refining), semi-integrated (owning either production or refining assets) and independent pure midstream participants.

Based on 2011 and 2012 data, major North American crude oil pipeline market participants were the following:

TABLE 7
NORTH AMERICAN CRUDE OIL PIPELINE MARKET PARTICIPANTS

	Participant Group	Miles of Crude Oil Pipeline	% of Total (Estimate)
Enbridge	Midstream Independent	~ 8,000	7.3%
Enterprise Product Partners	Midstream Independent	~ 5,250	4.8%
Energy Transfer Partners	Midstream Independent	~ 5,000	4.5%
ExxonMobil	Global Integrated	~ 5,000	4.5%
Kinder Morgan	Midstream Integrated	~ 1,000	0.9%
Phillips 66	Large Downstream Independent	~ 6,000	5.5%
Plains All American	Midstream Independent	~ 14,000	12.7%
Shell	Global Integrated	~ 1,000	0.9%
Spectra	Midstream Independent	~ 2,000	1.8%
TransCanada	Midstream Independent	~ 3,000	2.7%
Total		49,250	45.7%

Source: Various Public Company Data (10-K, Investor Presentations)

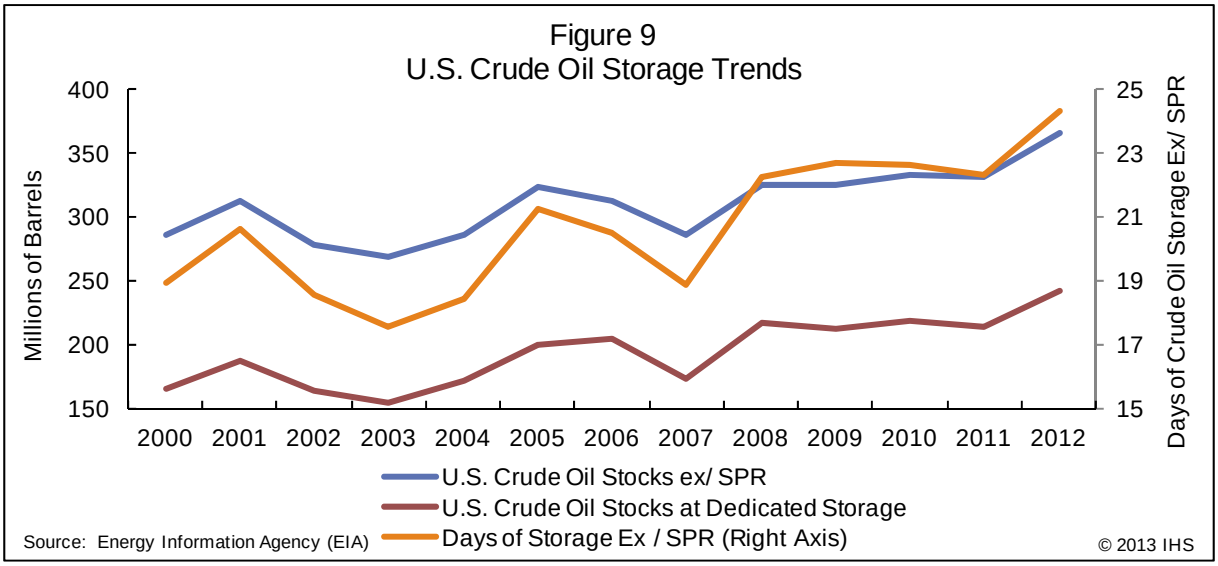
The economics of the crude oil midstream sector are based on long term, fixed-fee throughput tolls (or tariffs), which are used to fund the construction of these pipelines. Long distance crude transmission pipeline and smaller regional gathering systems can require investments ranging from several hundred million to several billion dollars. To recoup the investment and to service borrowed capital, pipeline operators charge a throughput fee to potential shippers. Prior to committing capital to a large transmission pipeline, operators require producer or third party commitments to ship a fixed volume of crude oil for a given duration at a negotiated rate. These upfront committed contracts are often negotiated on a “take-or-pay” basis, meaning that the committed shipper is required to pay the throughput fee regardless of whether the shipper (producer) has crude oil barrels to meet this volume commitment.

This financial structure provides another example of intermediaries playing a key role in supporting independent producers. Smaller production participants may not have enough production volume or financial capital to reserve pipeline capacity on a long term take-or-pay basis. By structuring a long term offtake agreement, which aggregates the production of multiple small participants with a merchant or trading customer, the bank facilitates for small producers a cost effective offtake for expected production, enabling small producers to focus solely on production without being exposed to the risk of long term logistics commitments. The alternative would be to arrange a contractual offtake agreement with a larger integrated competitor in the same market, which could use its logistics position to apply pricing pressure to smaller participants, reducing competition.

The physical storage of crude oil is another component of the midstream crude oil logistics sector and serves as the balancing mechanism between supply and demand, smoothing out short term price fluctuations. For the U.S., the available working storage capacity for crude oil is 1.2 billion barrels distributed across storage at petroleum refineries (10%), dedicated storage facilities (30%) and at the U.S. strategic petroleum reserves (60%).[27]

Interestingly, as the number of participants in the midstream crude oil storage segment has shifted toward a higher concentration of independent players, the working inventory of the U.S. crude oil system has increased by 28% since 2000, excluding the Strategic Petroleum Reserve (SPR). This increased dedicated (non-refinery) shell capacity is indicative not only of growth in U.S. crude oil production, but also of the diversification of the dedicated storage business. As with upstream production, the financing and leasing of storage capacity by producers, refiners and merchants is dependent on support from both financial partners and logistics intermediaries.

Figure 9
U.S. Crude Oil Storage Trends



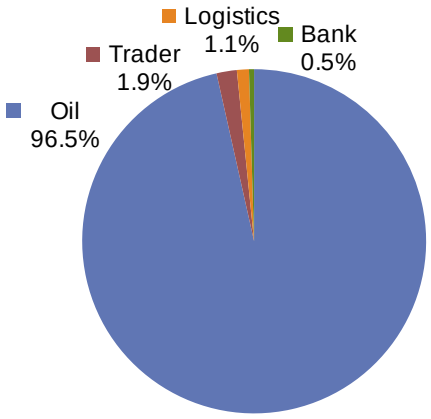
Source: Energy Information Agency (EIA)

Recent developments in the midstream logistics space toward both the larger role of independent pure play participants and overall storage capacity growth is typified at Cushing, Oklahoma. As both the physical settling location for the NYMEX crude oil contract and the largest non-SPR storage hub in the U.S.,[28] the dynamics of Cushing serve as an instructive proxy for the midstream industry. At present there are 12 active operators (who own and lease storage capacity) in Cushing of which only two are integrated in some fashion to either upstream production or downstream refining assets. The remaining 10 are pure play independent storage operators who have, over the past eight years, doubled the capacity of the Cushing storage hub, largely in response to storage capacity demand from producers, refiners and merchants, and facilitated by the financial support of well capitalized banking entities. A similar summary of Cushing ownership before 2000 would show fewer participants and the majority of physical storage capacity owned by regional and globally integrated oil companies.

[27] Data only available for U.S. crude oil storage operations, provided by EIA.
[28] The Cushing storage terminal hub contains 65 million barrels of working capacity or 5% of the U.S. non-refinery dedicated storage capacity.

The physical buying, selling and marketing of crude oil involves many parties and multiple transactions from the point of production to the point of consumption. There is no public data available summarizing the physical global or U.S. trade of crude oil, the number of physical barrels bought, sold, marketed or transacted. What is publically available is the U.S. EIA[29] crude oil import data. The EIA maintains records that provide details for every cargo of crude oil imported into the U.S., including country of origin, cargo size, crude oil bulk quality and the importer of record. Since more than half of U.S. crude oil demand is supplied with imports,[30] analyzing this data provides a useful proxy for the individual companies and types of participants involved in the physical purchase and trade of crude oil. We include below a summary of the data for 2008-2012.

Figure 10
U.S. Crude Oil Importers 2008-2012 Average



Oil[1]	8,920
Trading	177
Logistics[2]	105
Bank	44
Total	9,245 KB/D

1 - Oil companies includes petrochemical companies
2 - Logistics includes end users, blenders, utility companies

Source: Energy Information Agency (EIA)

From the EIA data, it is evident that the physical purchase and importation of crude oil is largely transacted by oil companies,[31] with other market participants handling only 3.5% of importation volumes. These other market participants include large trading houses, dedicated logistics and midstream pure players and banks.

REFINED PRODUCTS

A similarity that crude oil shares with other natural resource-based commodities is that, in its natural state, it has very little use or value to the general public.[32] Crude oil must be refined into useable products for its value to be realized. In facilitating the logistical flow of crude oil, the physical barrel may change hands several times, but in the end there is only one true crude oil consumer: petroleum refineries.

[29] Energy Information Agency, the statistical and data analysis arm of the Department of Energy (DOE).
[30] Statement excludes Canada crude oil imports and is for the time period from 2008-2012.
[31] Oil companies are defined as entities that either physically produce crude oil or own refining assets.
[32] The only current direct use for as-produced crude oil is direct burning which is practiced in small volumes and not environmentally permissible in large portions of the world.

SIZE OF THE NORTH AMERICAN REFINING INDUSTRY

As the largest consuming region of crude oil, North America also contains the largest and most sophisticated refining system in the world. Sophistication refers to a refinery's ability to convert the full crude oil barrel into "light" petroleum products (gasoline, jet fuel and diesel), the interconnectivity with the petrochemicals value chain and a refinery's ability to process heavy, sour or acidic crude oils. A total of 63 different entities are involved in the ownership of North America's refining system, consisting of 152 individual refineries with a crude oil processing capacity of 20 million B/D.

The crude oil refining and subsequent refined product marketing portion of the business is commonly referred to as the "downstream" sector of the petroleum complex and contains several distinct segments:

- **Refining** involves the physical processing of crude oil into many petroleum derived products. Refineries resemble small industrial cities and often entail 20-30 separate manufacturing processes, each with a different function. These individual process units can be classified into one of three groups: physical separation, conversion and treating. Physical separation, usually through boiling, splits the crude oil barrel into narrow fractions for further processing. Conversion units focus on rearranging less desirable molecular compounds into those more in demand and with higher value. In the treating units, impurities such as sulfur, nitrogen, and metals are removed. The end result of this intricate manufacturing process is the transformation of crude oil into usable refined products.

- **Specialty operations** can be thought of as a subset of the basic refinery process. The majority of production from a refinery is transportation fuels (gasoline, jet fuel, diesel and marine bunker fuels); many refineries produce only these transportation fuels. A smaller subset of refineries also produce a diverse array of useful products that include naphtha, lubricating oils, waxes, transformer and refrigeration fluids, petrochemical feedstocks and inputs into the fertilizer production complex.

- **Marketing and distribution** is the logistics function of the downstream sector and involves the transportation and sales of refined product from the refinery through regional distribution terminals down to local retail stations. Several of the assets and participants involved in this segment are closely affiliated with the upstream crude oil logistics sector.

Additionally, refiners are large customers of utilities both in the form of electricity and heat (typically steam) and are often co-located with large power facilities that supply the energy needs of the refinery and export surplus power onto the electricity grid.

In recent history, 2013 marks the first time a larger percentage (59%) of North American refining capacity is owned and operated by independent players rather than integrated oil companies. This is partially a function of the de-integration of Marathon and ConocoPhillips. The distinction between large (>1,000,000 B/D), medium (>250,000 B/D), and small independents (<250,000 B/D) is based on crude distillation capacity. The ownership breakdown of the North America refining system is the following:

TABLE 8
NORTH AMERICAN REFINING MARKET PARTICIPANTS

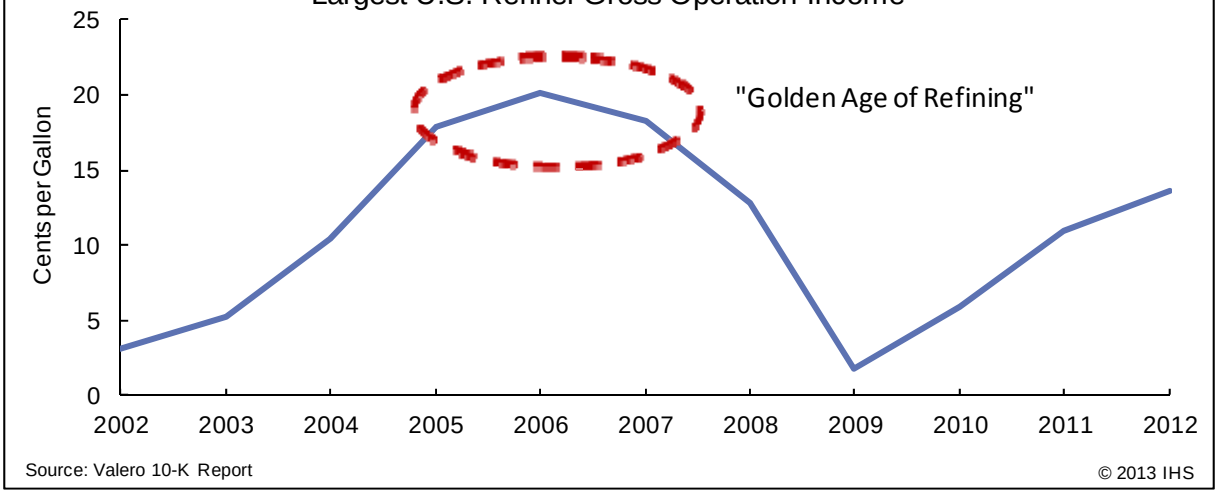
Ownership Entity	# of Refineries	% of Refining Capacity	Crude Oil Capacity (B/D)
Global Integrated	25	26.0	5,180,373
Regional Integrated	12.5	7.6	1,514,263
Large Independent	31	28.2	5,618,712
Medium Independent	21	17.6	3,506,714
Small Independent	57	12.8	2,550,337
National Oil Companies	5.5	7.8	1,554,112
Total	152	100	19,924,510

Source: IHS Energy Insight

At its core, refining is an energy and capital intensive manufacturing business where crude oil is the raw material and petroleum products are the finished goods. In the public discourse, petroleum refining is frequently characterized by two ideas, "refining is a high-margin business" and "since no new refineries have been built since the 1970s, the nation must be short of refining capacity." These two reasons are often cited as the driver of high pump prices.[33]

Refineries have historically been a relatively low margin and high volume manufacturing enterprise. At a crack spread[34] of $10 per barrel, roughly half of this difference goes toward covering operating costs with the residual for investor return and taxes. The resulting operating margin of $5 per barrel (12 cents per gallon), reflects a single digit fraction of the price paid for finished refined products.

Figure 11
Largest U.S. Refiner Gross Operation Income



Source: Valero 10-K Report

[33] Committee on Government Reform Subcommittee on Energy and Resources, "Petroleum Refineries: Will Record Profits Spur Investment in New Capacity", October 2005.
[34] The difference between the price of crude oil feedstock and finished refined products, typically gasoline and diesel.

Although no new refineries have been constructed in several decades, existing refineries have expended vast sums of capital to grow capacity, to add new processing units and to continually replace and upgrade existing equipment. As a rule of thumb, refineries typically allocate 2-3% of the replacement cost of the refinery in sustaining capital and facilities refurbishment annually.

The magnitude of the capital necessary to support ongoing operations becomes evident when considering the replacement cost of the North American refining system. The conservative estimate to replace the 20 million B/D of high complexity refining capacity would likely exceed $500 billion. With moderate demand growth and relatively geographically diverse locations, North American refiners have not needed new refining sites to satisfy domestic demand. North America's refineries produce an output of 18.2 million B/D for North American refined product demand of 16.8 million B/D. Indeed, in 2011 the U.S. became a net exporter of petroleum products. Large multi-billion dollar investments are hard to justify in a regional market that is already over-supplied.

As the North American refining system has become more independent and less vertically integrated, an additional challenge has emerged for many of the smaller participants in the industry—the funding of working capital. Working capital for refineries is primarily the purchase of feedstocks and funding operations until the raw materials can be processed, sold and revenue collected. The credit and financing challenge of buying feedstocks for smaller refiners is high compared to other commodities manufacturing businesses. Consider the example of a very large crude carrier (VLCC), laden with 2,000,000 barrels of crude oil, or the feedstock for a 200,000 B/D refinery for 10 days. The working capital for this cargo exceeds $200 million in today's prices. The typical supply chain from crude oil purchase through refinery delivery, processing and product sales can take 1-2 months.

While the refining business is relatively continuous with ongoing product revenue offsetting crude purchases, there is a significant sustained working capital requirement. Smaller participants with smaller balance sheets are taking significant risk with each cargo of crude oil purchased. Market conditions often change and the value of the products sold can be less than the cost of the feedstock purchased. Although market fluctuations generally "even out" over time, a given price movement can have a sharp effect on small company financial performance or even viability. A critical factor in ensuring that small participants can compete in the refining sector is partnerships with external banks that can provide working capital for ongoing operations and manage the risk of short term price fluctuations. The working capital funding challenge for independent refiners is illustrated in the transactional value of the refining asset itself. Consider the recent example of the sale of the Texas City Refinery from BP (a global integrated) to Marathon Petroleum (a large independent refinery): the transactional value of the refinery asset was reported at $598 million, with the transactional value of the onsite inventory listed at $1.2 billion.

This high perpetual capital reinvestment, both in the facility and in working capital, and the historic low margins for the core business provide a role for banks in financing ongoing operations and providing non-core refining services such as feedstock supply and product offtake. The economic challenges faced by the U.S. refining industry and the valuable services that banks can provide in reducing overhead costs and improving capital efficiency has been demonstrated over the past three years in the U.S. East Coast market and elsewhere.[35] This value to independent refining companies is illustrated in the following statement, "We have agreements with [a major financial intermediary] for the supply of crude oil that will support the operations of the Big Spring refinery, the Krotz Springs

[35] Similar arrangements are in place for small independent refineries in Louisiana, Texas, Minnesota and California.

refinery and the California refineries. These agreements substantially reduce our need to issue letters of credit to support crude oil purchases. In addition, the structure allows us to acquire crude oil without the constraints of a maximum facility size during periods of high crude oil prices."[36]

Similar to crude oil production, the majority of the three primary transportation fuels moves from the refinery to large demand centers via pipeline. There is an estimated 105,000 miles of refined product pipeline in North America connecting the major refining centers to regions of high population density.[37] The largest of these systems is the Colonial Pipeline System, running from the Houston, Texas area to New York Harbor. This system, together with Kinder Morgan's Plantation pipeline, has the capacity to transport 3 million B/D of gasoline, jet and diesel from the Gulf Coast to the U.S. Southeast and Mid-Atlantic regions, almost 20% of North American refined product demand.[38] Provided below are the main participants in the refined product trunk line[39] transportation sector of the industry:

TABLE 9
NORTH AMERICAN REFINED PRODUCT PIPELINE MARKET PARTICIPANTS

	Participant Group	Miles of Crude Oil Pipeline	% of Total (Estimate)
Buckeye Partners	Midstream Independent	~ 6,000	6.5%
Colonial Pipeline	Midstream Independent	~ 5,500	5.2%
Energy Transfer Partners	Midstream Independent	~ 2,500	2.4%
Enterprise Product Partners	Midstream Independent	~ 4,800	4.6%
Explorer Pipeline	Midstream Independent	~ 1,900	1.8%
ExxonMobil	Global Integrated	~ 2,000	1.9%
Kinder Morgan	Midstream Integrated	~ 8,000	7.6%
Magellan Product Partners	Midstream Independent	~ 9,600	9.1%
Marathon Petroleum	Large Downstream Independent	~ 7,900	7.5%
NuStar	Midstream Independent	~ 3,800	3.6%
Phillips 66	Large Downstream Independent	~ 4,000	3.8%
Total		56,000	54.1%

Source: Various Public Company Data (10-K, Investor Presentations)

The refinery output not transported in North America's trunk line system is distributed via tanker truck, rail and marine tanker. The use of tanker truck and rail is particularly prevalent for the smaller volume specialty products that rely solely on physical transactions as a means of price discovery. From the major refined product supply trunk lines, fuels are moved through connected storage terminals to wholesale blending and terminal facilities. At these facilities, the fungible fuel products provided by the refinery are blended with additives and renewable blend components (such as ethanol and biodiesel) to form the finished transportation fuel.[40] Once blended into finished

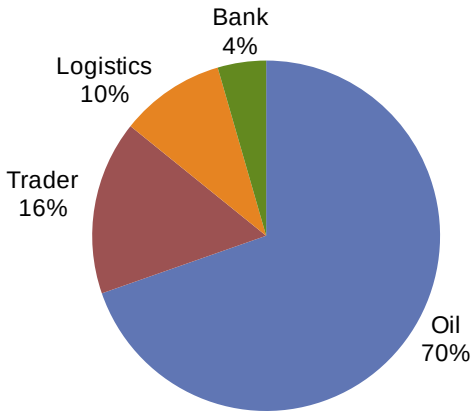
[36] Alon USA Energy 2012 Annual Report.
[37] With the U.S. containing 95,000 miles.
[38] Ownership of Plantation Pipeline split 52.2% Kinder Morgan and 48.8% ExxonMobil.
[39] Trunk line refers to the major interstate pipeline systems and are differentiated from the intrastate and local distribution pipeline systems.
[40] Some refineries perform the onsite blending of additives and biofuels inside the refinery with sales from the refinery directly to distributors; these are commonly referred to as "rack sales".

transportation fuel, the distribution system becomes even more fragmented as dealer tanker trucks and "jobbers" (independent middleman businesses) fulfill the final "last mile" of the distribution system, which involves delivering product direct to retail stations and large industrial customers. The level of integration of refiners in the distribution sector varies by operating entity, from having no presence in the distribution and marketing space to being fully downstream integrated and owning the main refined product trunk line, wholesale blending operation, delivery tanker trucks and the branded retail outlets.

As with the different sectors of the full petroleum complex, there is no standard downstream business model. Instead different operating entities have different intermediation needs from financing, logistics and trading entities. For the pure independent refiner whose sole focus is on refinery operations there is a role for external intermediaries to help facilitate crude purchasing, crude financing, product offtake and product distribution to independent wholesale operators. These intermediaries need a strong balance sheet to provide the credit worthiness to fund ongoing operations and a detailed knowledge of the physical marketplace to facilitate the trading of the refined product.

Similar to crude oil, there is no publically available data concerning refined product transaction volumes, the buyers and sellers in the market and the involvement of marketers and other intermediaries. However, the U.S. EIA import statistics can again be used as a proxy to analyze the participation of individual entities and of participant groups.

Figure 12
U.S. Refined Product Importers 2006-2012 Average



Oil[1]	1,868
Trading	434
Logistics[2]	261
Bank	120
Total	2,683 KB/D

1 - Oil companies includes petrochemical companies
2 - Logistics includes end users, blenders, utility companies

Source: Energy Information Agency (EIA)

The market participation of refined product imports (by importer of record) has higher diversification than crude oil with oil companies handling 70% of refined product imports. This higher degree of diversity is a reflection of the segmentation of refined product output and the business decision of many downstream oil companies to exit the wholesale and retail market segments.

To successfully participate and provide these services, these external participants, such as the banks, must have a deep commercial knowledge of local and regional flows, players and facilities. Petroleum markets are quite dynamic and changes can and do occur rapidly. Some changes are foreseeable, such as when local fuel specifications become more region specific or the added complexity of biofuels blending and compliance. Other changes, such as a refinery outage or a storm that delays a ship's arrival, are unpredictable and require tactical knowledge of the crude oil and refined products supply chain. The role of banks is discussed more in Section III.

NATURAL GAS

The North American natural gas commodity sector has experienced profound structural changes in the past 30 years, with the advent of the modern competitive trading structure occurring in 1992 with FERC Order 636. Pre-1990s, the natural gas industry was heavily regulated. There existed large structurally integrated companies that took part in production, ownership of transportation pipelines and end use distribution. The interstate pipeline companies were charged with purchasing gas from producers at regulated prices and reselling gas to local distribution companies (LDCs), again at regulated prices. This regulated system left limited room for competition from smaller players across the value chain, but functioned reasonably well so long as natural gas was in surplus owing to price controls that had retarded investment, as it was until the severe winters of the late 1970s. When shortages arose, however, this regulated system adjusted only slowly to shifts in market conditions. Large dislocations occurred between natural gas prices in the unregulated intrastate marketplace, and the regulated prices for gas dedicated to interstate pipelines—with resulting shortages of gas in the interstate market.

The deregulation of the natural gas industry beginning in the 1980s paved the way for more competition and choice across the value chain and enabled both producers and consumers to respond in a more timely manner to shifts in market conditions. Deregulation of wellhead prices,[41] unbundling of the pipeline sale and transport functions and the flexibility of end users to purchase natural gas directly from producers, LDC or marketing entities allowed pricing signals to flow through to both producers and end users, allocating supply and demand in a more efficient manner through both producer drilling responses and consumer energy choices.[42] These measures also introduced a new breed of marketing entities as facilitators of natural gas movement from producers to end users. By providing bundled or unbundled services to any two parties within the value chain, marketers play a valuable role in facilitating the transactions that bridge the geographic and chronological gap between production and consumption. Significant regulatory oversight in the transportation and distribution of natural gas still exists to ensure competitive natural gas markets.

In the early 2000s, U.S. natural gas production had stagnated and began to decline, and liquefied natural gas imports were thought to be necessary to supplement U.S. supplies of natural gas for households, electricity generation and large industrial operations. The result was a construction wave of import facilities by the mid-2000s on the Atlantic and Gulf Coast to receive LNG imports. Between 2000 and 2003, an economic downturn temporarily slowed the increase in gas prices. Between 2004 and 2008, prices rose on strong demand, rising construction costs and stagnant production (to over

[41] Post deregulation, natural gas prices became a function of market fundamentals (supply and demand) rather than a pre-set regulated price.

[42] Bundling refers to the legacy where long distance interstate transmission pipelines took physical ownership of the natural gas being transported. As this system was deregulated, pipeline operators moved to a system of charging throughput volumes on natural gas movements through their pipeline assets.

$8.00/MMBtu from $5.00/MMBtu). By 2008, due to higher prices and conventional wisdom of declining supply, the U.S. had constructed 12 LNG import facilities with a total regasification capacity of 19 Bcf per day, or about one-third of U.S. natural gas demand. It was widely assumed that the Caribbean, North Africa, the Middle East and West Africa would be major suppliers of the U.S. natural gas imports. But just as the last domestic natural gas import terminal was being completed, an upsurge in unconventional gas production, principally shale, reshaped the energy landscape and marginalized the long term need for LNG imports, re-orienting the market towards a position of supply strength.

The revolution in shale production was primarily driven by independent players, both large and small, with financial assistance from banks with strong balance sheets. The capital and price risk management provided by banks has been a key driver of the unconventional gas revolution. The full impact of the shale revolution is only now taking shape, North American dry gas production increased from 69 Bcf per day in 2007 to 79 Bcf per day in 2012, a 13.4% increase in five years.[43] Correspondingly, a slow demand recovery due to the 2008-2009 recession is leading to slower gas-directed drilling activity in light of excess supply. Supply and demand will likely rebalance in the next few years due to structural increases in demand growth expected to cause upward pressure on natural gas prices.

North American natural gas consumption is primarily determined by the residential, commercial, industrial and electric sectors with the potential of an increasing contribution from the transportation sector in the form of natural gas vehicles (NGVs), specifically heavy-duty trucking. Residential and commercial consumption has been largely flat for the past decade averaging 14 Bcf per day and 9.2 Bcf per day, respectively, between 2007 and 2012. Industrial demand was structurally weakened by the economic recession of 2008-2009, averaging 17 Bcf per day. Demand has stabilized and is beginning to recover. Electric consumption witnessed a 25% increase (the largest growth of all sectors) from about 20 Bcf per day in 2007 to about 26 Bcf per day in 2012. Electric consumption continues to maintain the largest share of natural gas demand and is expected to maintain a large position in the future. To put these numbers in financial terms, total North American natural gas market value equals USD$128.2 billion annually.

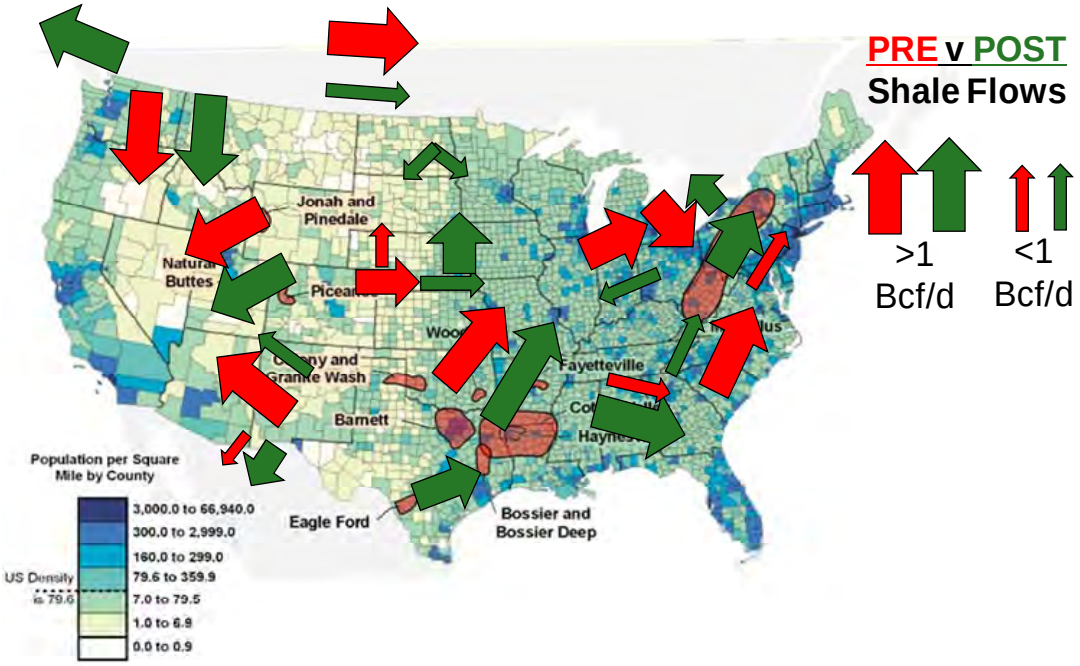
NATURAL GAS FLOW PATTERNS SHIFT

The substantial growth of shale gas over the past few years, including the Marcellus[44] in the Northeast is causing a shift in gas flow across North America (see the following figure). Marcellus production will increase by at least 1.2 Bcf per day to nearly 12 Bcf per day by the end of 1Q2014. Marcellus will displace another 400 million cubic feet (MMcf) per day of supply previously moving to the Northeast. From November 2013 to March 2014, 2.6 Bcf per day of additional interstate pipeline infrastructure and 1.2 Bcf per day of gas processing capacity are expected to come online.[45] The projected increase in infrastructure will connect Marcellus supply to existing regional pipelines but will require large capital investment. Banks play a crucial role in helping smaller players to be competitive by providing them with cost effective access to capital, risk management and intermediation services. The Marcellus continues to gain market share in an area of highly concentrated gas consumption replacing supply historically served by the Gulf Coast, as well as

[43] IHS CERA Aug 2013 “Moving Sideways”, EIA.
[44] Marcellus is the natural gas rich geological formation running under Western Pennsylvania.
[45] IHS CERA “New Infrastructure Continues to Unleash New Production in the Marcellus” Aug 2013.

eastern and western Canada. The excess supply coming out of the Marcellus has exerted downward pressure on prices and, as a result, drilling activity. It has also dampened gas volumes going from the Rockies to the east and from Texas to the north, thereby also reducing the transportation costs of natural gas to these large consuming regions. The landscape of North American natural gas movements will continue to evolve as new shale plays are discovered and older plays decline. Access to capital, risk management and intermediation services will be critical in allowing market participants to develop new resources and continuously modify the infrastructure required to connect new supply to consumers.

FIGURE 13



Source: IHS CERA and U.S. Census Bureau, *Census 2000*.
00112-13

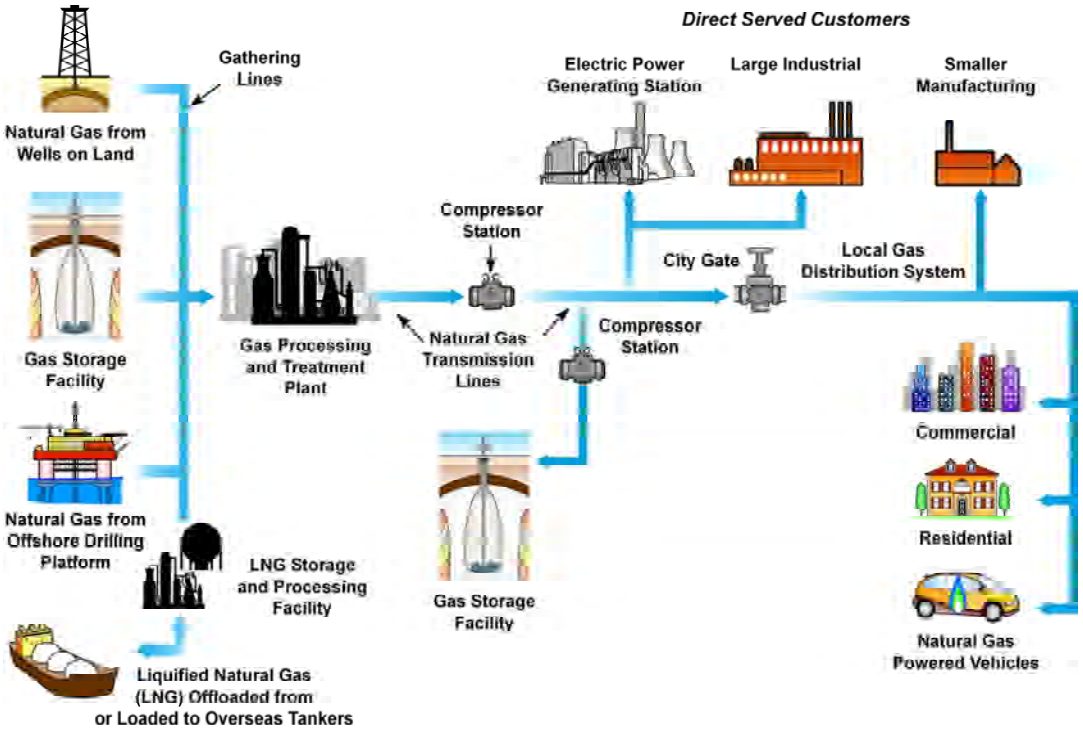
NATURAL GAS SUPPLY CHAIN

The process of getting natural gas out of the ground to its end use is complex and involves players in both the natural gas physical and financial markets.

The natural gas exploration, development and production portion of the business is analogous to the upstream sector of the crude oil complex described above.

The natural gas midstream logistics segment in the natural gas complex involves transporting produced natural gas from the well head to demand center distributors or LDCs.[46] This transportation function can involve smaller gathering systems and larger long distance transportation networks commonly called transmission lines. The gathering systems typically involve pipelines which aggregate natural gas from individual wells or groups of wells and transport them to either gas processing plants where the separation of natural gas liquids (NGLs) occurs or to treatment plants, which remove impurities such as H_2S and CO_2 in the case of lean gas. Dry gas then goes through pipelines to LDCs, large utilities or large industrial sites which in turn distribute gas to end users (commercial, residential, industrial or transportation (NGVs). Many larger end users such as power generation facilities or industrial facilities are directly connected to the high-pressure pipeline grid as well. Volumes of natural gas are stored underground, in depleted reservoirs, in salt caverns or aquifers, to moderate supply and demand imbalances and seasonal swings. The figure below provides a representation of the natural gas value chain.

FIGURE 14



Source: IHS Energy Insight
30899-3

[46] LDCs or Local Distribution Companies are regulated utilities involved in the delivery of natural gas to consumers within a specific geographic area. There are two basic types of natural gas utilities: those owned by investors, and public gas systems owned by local governments.

There are over 6,300 natural gas producers in North America. The participants in the upstream sector can be classified into one of the following groups (value represents percent of North American natural gas total production):

- Global Integrated (9.8%) such as ExxonMobil, Shell, BP and Chevron
- Regional Integrated (5.1%) such as BHP, Cenovus, Suncor and Husky
- Large Independents (53.1%) such as Apache, EnCana, Chesapeake Energy, Anadarko Petroleum, Devon Energy and ConocoPhillips
- Medium Independents (22.7%) such as Southwestern Energy, Cabot Oil & Gas, QEP Resources and EP Energy
- Small Independents (9.3%)

TABLE 10
NORTH AMERICAN NATURAL GAS PRODUCTION MARKET PARTICIPANTS

	Number of Participants	Typical Production	% of NA Production	Approximate 2012 Production
Globally Integrated	< 5	> 2 Bcf/d	10%	7.8 Bcf/d
Regionally Integrated	10 - 15	> 0.5 Bcf/d	5%	4.1 Bcf/d
Large Independent	15 - 20	> 1 Bcf/d	53%	42.1 Bcf/d
Medium Independent	20 - 50	> 0.5 Bcf/d	23%	18.0 Bcf/d
Small Independent	100+	< 0.5 Bcf/d	9%	7.4 Bcf/d

Source: IHS Herold

Similar to the upstream sector, the gas processing and gas treatment logistics sector (midstream) including pipelines and storage facilities contains both integrated players (owning assets across the value chain), semi-integrated (owning assets in production, gas processing or distribution) and independent pure midstream players.[47]

- There were over 500 active natural gas processing plants in 2012. Operating natural gas processing facilities had a total capacity of 66 Bcf of wet gas.[48]
- There are over 160 pipeline companies with over 300,000 miles of pipe, approximately half of which constitute interstate pipelines. Current pipeline capacity is about 148 Bcf per day from the producing to the consuming regions.

[47] See naturalgas.org for more details.
[48] Wet gas, as opposed to dry gas, is any gas with liquids content too high to be accepted into the interstate pipeline grid. Natural gas liquids (NGLs) such as ethane, propane and butane are extracted from wet gas.

- There are 132 natural gas storage operators in North America. They control over 400 underground storage facilities. These facilities have a working storage capacity of about 4500 Bcf of natural gas, roughly 60 days of North American demand and an average daily availability of 85 Bcf per day.[49]

- There are over 1,200 natural gas LDCs in North America with ownership of over 1.2 million miles of distribution pipe. A few markets have multiple competing LDCs, bringing choice and price restraint to the consuming public in those areas. In addition, certain states are working to provide more natural gas distribution choices to their consumers.

- The trading and marketing of natural gas is an important component of the midstream sector. Marketers undertake a multitude of transactions to ensure the delivery of natural gas in a timely manner to the end user. The marketing of natural gas is a diverse and transparent commodity market where companies enter and exit from the industry frequently. Since 2000, there have been 260 companies involved in the marketing of natural gas and they moved about 80% of all natural gas supplied and consumed in North America.

COMMODITY TRADE

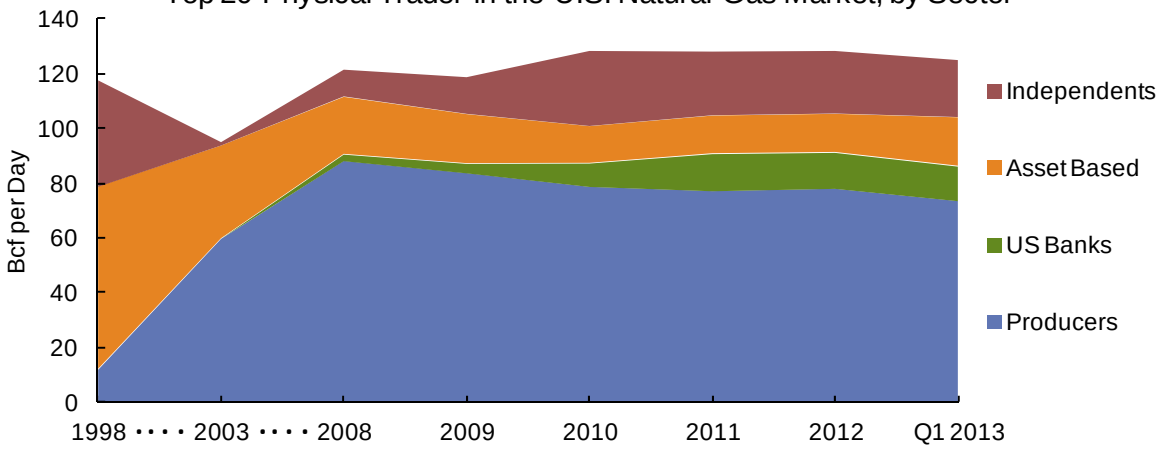
Since the separation of interstate natural gas pipelines from the buying and selling of commodity gas by FERC[50] Order 636 in 1992, both physical and financial trading of gas in an open and competitive marketplace have been necessary in order for buyers and sellers to come together in the U.S. and Canadian natural gas markets. In the U.S., natural gas is traded on both a physical and financial basis, with daily physical trading prices quoted by Platts[51] at 51 distinct pipeline zones on the high-pressure gas transmission system, and at an additional 28 market area locations on large utility systems or at major interstate pipeline interconnects (hubs). Other publications, including Energy Intelligence and SNL, provide survey-based quotes at additional locations. Financially, the benchmark futures contract is traded on the New York Mercantile Exchange (NYMEX) for delivery at the Henry Hub in Louisiana,[52] and basis futures products are also offered on the NYMEX at approximately 40 additional locations in the U.S. gas grid, corresponding to the more heavily traded physical locations in the North American grid.

Trading in this combination of daily and monthly physical markets, as well as financial futures markets, defines the value of natural gas throughout the North American grid. It also serves to reveal areas of shortage or constraint in the gas delivery system, and directs both upstream and midstream (pipes and storage) investments most efficiently to meet the needs of U.S. natural gas consumers.

Financial institutions are relatively new to the physical trading sector of the natural gas business in the U.S. Only in 2011 did U.S. banks emerge as the third most active sector involved in the physical trading of natural gas, far behind producers and other independent players (see following figure).

[49] Outflow capacity.
[50] Federal Energy Regulatory Commission, primary responsibility is the regulation of interstate energy movements.
[51] Platts along with Argus Media and OPIS are the main price reporting agencies, they confidentially collect and report transparent pricing on non-exchange traded commodities.
[52] Henry Hub is a pipeline juncture that serves as the physical delivery point for the NYMEX contract.

Figure 15
Top 20 Physical Trader in the U.S. Natural Gas Market, by Sector



Source: Energy Intelligence Group

The figure above illustrates the physical volumes traded by the top 20 natural gas trading organizations, as reported by the Energy Intelligence Group, for the full years 1998, 2003, and 2008-2012. Data for 2013 is for the first quarter. Each organization is classified into one of four categories, with the 2013 first quarter companies as follows:

- Producers (10 producers in 2013)
- Financial institutions, including large banks (JP Morgan, Goldman Sachs, and Citigroup)
- Asset-based traders, largely utilities and/or pipeline companies, some of which have traded well beyond their asset footprint but for which trading is secondary to asset operations (Tenaska, Sequent, ONEOK and CenterPoint)
- Independent traders and marketing service providers, which may hold assets but emphasize trading and marketing services in the U.S. market, with U.S. asset holdings designed to support trading (Macquarie, EDF Trading and Castleton)

The volume traded during these periods by these entities collectively has averaged approximately twice total end user demand in the U.S. over the years sampled. With other trading organizations added, each gas molecule in the U.S. market is physically traded on average more than twice from the point of entry into the high-pressure pipeline grid to the point of consumption.

Banks hold a relatively small but important niche in this overall competitive business, representing approximately 10.4% of traded volumes among the top 20 traders over the first quarters of the past three years. By contrast, the producers have maintained a share of approximately 60.2% of overall traded volumes, while the asset-backed and independent traders together account for approximately 29.4%.

Banks participation in this sector increased somewhat in 2003 as a result of the Federal Reserve's 2003 determination that physical trading is an activity "complementary" to financial activity. However, a more significant driver was the exit of major independent and asset-backed participants from the business after the crises in energy wholesale markets (both natural gas and power). The banks essentially emerged into a void left as others exited.

This shift in market share is evident in the above graphic. In 1998, producers were largely outsourcing the physical trading function to asset-backed and independent entities, which combined to claim over 89% of trading volumes among the top 20 firms. By 2003, utilities and pipeline (asset-backed) companies were exiting the trading business, while the independent entities including Enron, Dynegy and Aquila had largely disappeared. Into that void stepped first the producers with the majors providing a full range of products and services, as they and the banks do today. The producers' share has remained relatively steady in the 59-65% range since 2010, with their share having peaked at 74% in 2009.

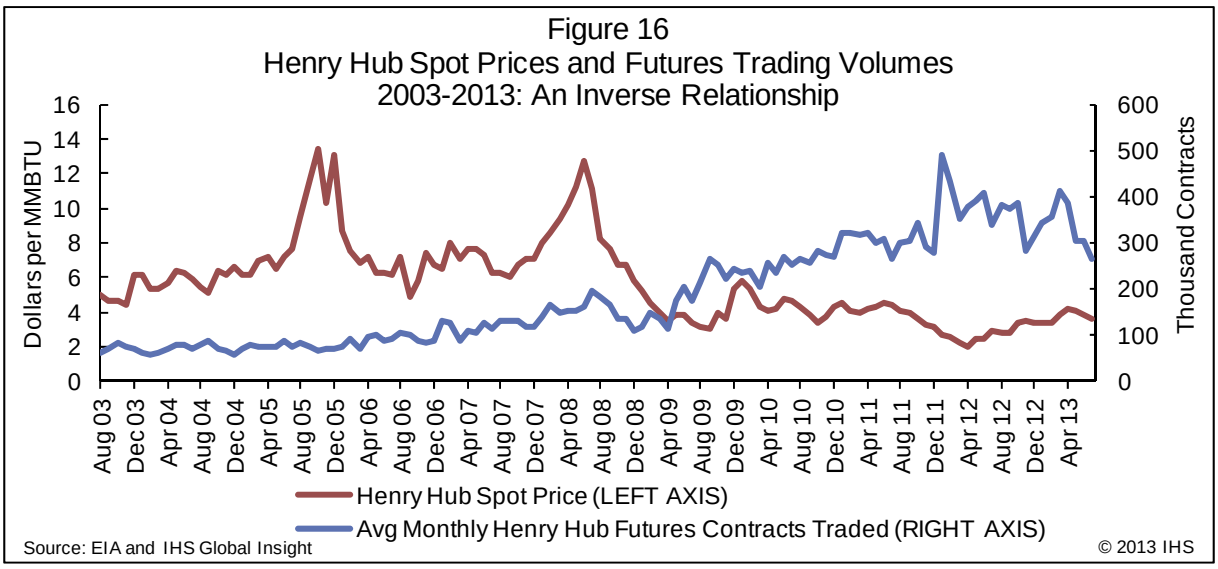
The banks offer an important alternative to many customers as major, independent providers of the full range of services in the marketplace. Small producers often depend on larger producers in the same area to market their gas, (the more active producer-marketers including BP, Shell and Chevron, many of which market more than they produce). Given large producers' strong market position, without the banks there would be very few other firms to offer small producers and end users marketing and other services that would be competitive with those provided by large producers. In fact, only one U.S.-based firm aside from the banks is in the top 25 physical marketers without also having a large direct stake in the physical natural gas value chain; i.e., is not a producer, utility or pipeline company. International firms are aggressively competing to provide independent marketing services, but the U.S. banks are by far the largest U.S.-based non-producer providers of marketing services in the natural gas industry.

THE FINANCIAL MARKETS FOR NATURAL GAS

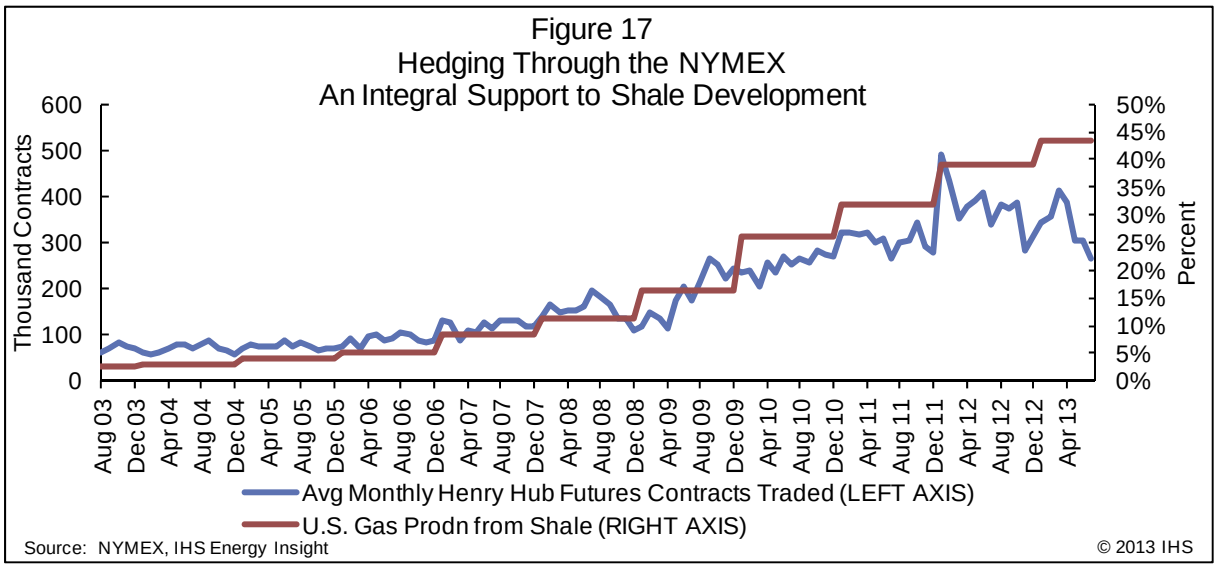
Natural gas is well established in the financial markets in the U.S. The benchmark Henry Hub futures contract, which began trading in April 1990, is the most liquid natural gas contract and the third largest physical commodity futures contract in the world by volume.[53] The daily trading volume of the Henry Hub contract has averaged nearly 340,000 contracts so far this year, below the 2012 average but a high level by historic standards (see following figure).[54]

Over the years, some have argued that futures trading has increased volatility and overall price levels for both oil and natural gas. However, the experience of recent years shows that this is not the case: traded futures volumes have increased significantly while the overall price level and volatility has declined substantially. The decline in overall price level has been more a function of North America supply and demand fundamentals than futures contract liquidity.

[53] The CME Group.
[54] IHS Global Insight.



This important point bears repeating: trading in and of itself has had no discernible impact on price. Rather, the strong increase in total NYMEX volume and especially the volume of long-dated trades occurred for a fundamental reason—it enabled investment in physical natural gas production even as prices fell, as shale producers (commonly through their bank intermediates) used futures as an effective risk management tool. Shale production differs from previous conventional gas production in that large acreage positions are accumulated, with many drill sites that may take several years to drill. As such, these are longer-lived assets than many earlier conventional plays, and often require billions of dollars in investment over a multi-year period. Hedging provides a means of ensuring a forward price, limiting price risk associated with these investments and increasing the ability to use debt to finance these investments. The relationship between the increase in shale production and the Henry Hub futures volume is illustrated below:



The percentage of U.S. production coming from shale gas is an IHS Energy Insight estimate on an annual basis, so each year is shown above at a flat level. Also, clearly many factors contribute to an increase in trading volume of this magnitude. Nevertheless, the simple correlation coefficient (R^2) for this relationship is 91%, a strong and stable association. The banks' ongoing participation in this market is driving liquidity and helping to support important risk management services to producers, without which they would not be investing in incremental production as confidently. This ability to hedge ultimately reduces energy costs for American consumers. If producers did not have access to long-dated contracts, their investments in new production would likely diminish with a corresponding rise in consumer prices and greater volatility. An efficient natural gas futures market and access to effective intermediation services are key factors in the rapid development and monetization of the North America's shale resources. Other shale rich countries with large resource potential (e.g. China, Argentina and Poland) that do not have the same market structure and intermediary presence are struggling to replicate North America's success.

Away from the Henry Hub, in forward basis trading at the major producing and consuming hubs, banks are even more critical providers of risk management and liquidity in the forward markets. While exchanges offer forward future contracts at many locations (more than 40) in the gas grid, the liquidity of these contracts is quite limited, and therefore so is their usefulness to market participants. To illustrate the lack of liquidity on the public exchanges for contracts other than the Henry Hub (in the basis markets), there are 59 contracts (either futures or options) at locations other than the Henry Hub offered by the CME Group. On August 22, 2013, a total of only 422 trades occurred among all 59 locations—in contrast to the over 300,000 contracts traded on an average day at the Henry Hub. In addition, even these 422 trades occurred at only two of the 59 locations (the Permian and Dominion South Point contracts); the other 57 locations registered no trades.[55] Open interest totaled 466,351 contracts at all 59 basis locations, for an average of less than 8,000 open interest contracts per location (the most open interest was at SoCalGas), in comparison to the more than 1.3 million open interest contracts at the Henry Hub the same day.

This is a single day sample and is not atypical. For example, for all of 2013 to date for 35 locations away from the Henry Hub[55] average trading volume was only 15 contracts per day, and on 94% of days no trades at all occurred at a given location. This lack of liquidity illustrates that producers and consumers clearly may not rely on the financial exchanges to be able to execute their hedging and risk management needs at locations away from the Henry Hub.

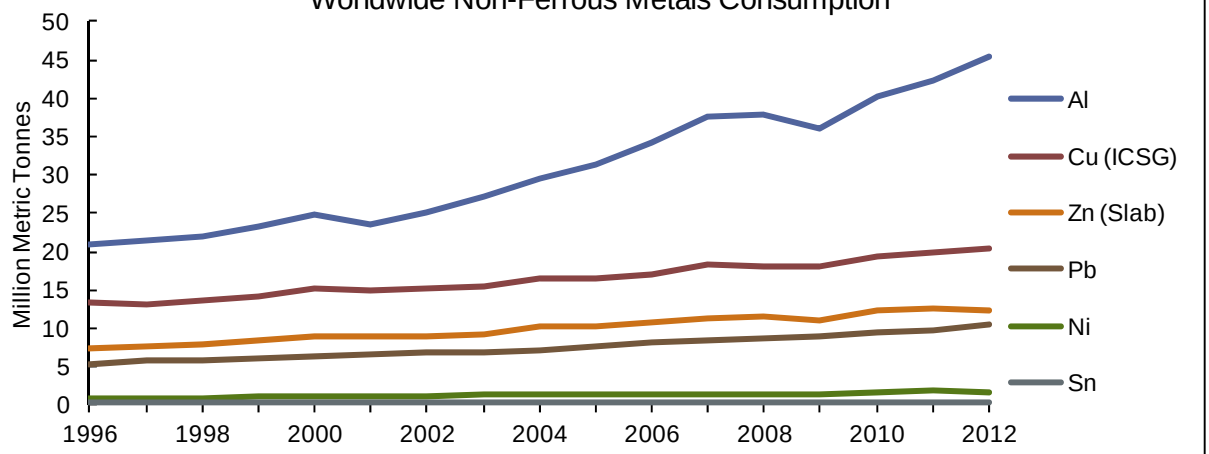
The banks' willingness to quote forward prices and hedge for producers and consumers at these locations is a critical service with no effective financial alternative currently available in the market. In addition, the banks' ability to provide this service requires physical participation in the marketplace at these locations day-to-day in order to provide the information necessary to make competitive price assessments. Additionally, banks participation in physical natural gas in these same regions enables them to manage their risk profile efficiently through increased market understanding. Without physical participation, banks' financial natural gas positions in these regions would carry higher uncertainty and associated risk. The end result would be that banks would either exit the business of providing financial risk management services (hedges), or materially increase the cost of providing these services. Both results would have an adverse effect on producers and consumers risk management strategies.

[55] The CME Group.

NON-FERROUS METALS

Non-ferrous metals trading is centered in six major commodities: aluminum, copper, zinc, nickel, lead and tin. Aluminum is the largest of the non-ferrous metals markets, evidenced by trading volume on the London Metal Exchange (LME) and global consumption figures. By tonnage consumed, it is about 80% the size of the rest of the non-ferrous metal industry combined and the fastest growing.

Figure 18
Worldwide Non-Ferrous Metals Consumption



Source: IHS Supply Chain

Global aluminum demand has been growing at about 6% per year since the demand contraction during the recession of 2008-2009. Today, greater quantities of aluminum are consumed in countries such as China, Brazil and India, with China at 40% of the total demand and a high growth rate. Over the last 40 years, the United States has dropped from around 35% of the market to only about 10%. Aluminum has three principal end markets: transportation equipment, packaging and construction. The largest end use for aluminum is typically transportation or automobile manufacturing. The next largest use is for the packaging of beverage cans, although usages can vary across different regions.

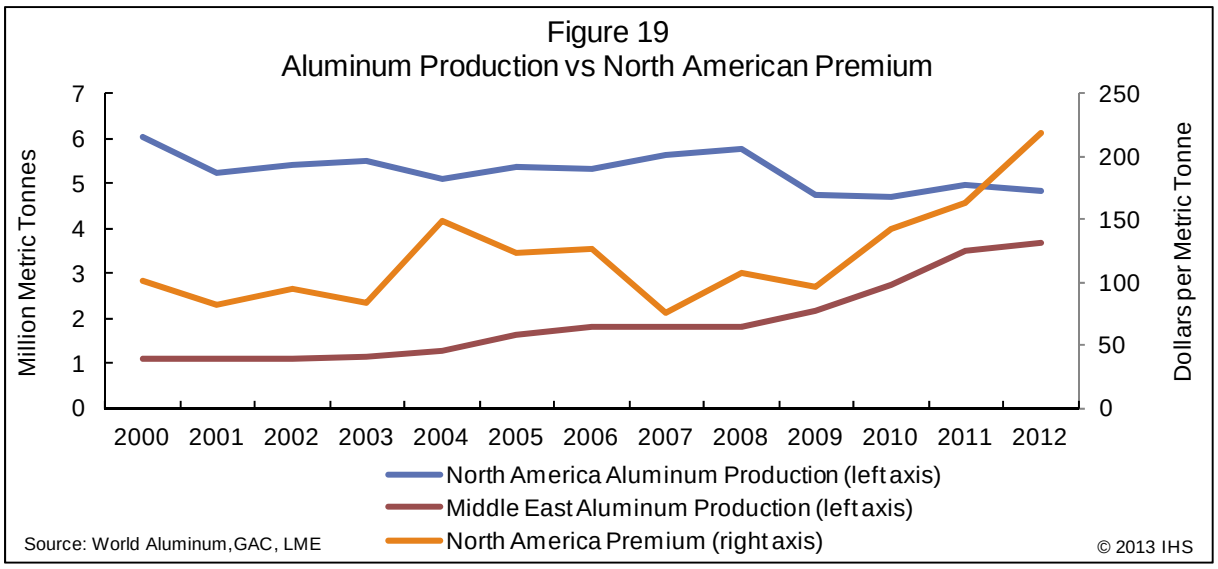
PHYSICAL INDUSTRY

Aluminum is produced through the processing of bauxite ore which is obtained by mining. It takes about four tonnes of bauxite to produce one tonne of aluminum. Aluminum oxide (alumina) is refined from the bauxite ore as an intermediate processing step. Primary aluminum is produced by an alumina smelter through an electrolysis process that has a high consumption of electricity. The finished high purity aluminum is usually formed into bars or ingots for storage, transport and sale.

The aluminum industry has changed significantly over the last 40 years. In the 1970s, the major producers were highly vertically integrated in mining, refining, smelting and fabricated aluminum production with most of the primary aluminum production in major developed countries. Prices were driven by producers through changes in capacity utilization or inventory accumulation. This began to change near the end of the 1970s as the first aluminum contract was introduced on the LME in 1978. The establishment of an exchange-based pricing mechanism shifted pricing power from the integrated producers to the transparency of the exchange.

The geographic distribution of bauxite mining and aluminum production has shifted significantly over the years. The four largest countries producing bauxite are now Australia, Brazil, China and Indonesia accounting for over 70% of the market. A similar pattern is found in the alumina refining industry with China, the largest producer, along with Australia, Brazil and India having a combined share of over 70% of the market. Primary aluminum production costs are mainly influenced by energy costs for electricity consumed in the electrolysis process. Energy costs are typically one-third of the manufacturing cost of aluminum, including the cost of the bauxite raw material. Therefore, aluminum production has moved to areas with lower energy costs such as China, Russia, the Middle East and Canada. Over the past 10 years, China has emerged as the dominant player with around 40% of the market. The United States has dropped from producing over 30% of the total aluminum in the 1970s to less than 5% today, driven by the higher costs of electricity and labor, which together make up about 50% of the cost structure of producing aluminum. The high proportion of electricity in the cost of producing finished aluminum sets it apart from the other non-ferrous metals. Access to cheap energy, rather than proximity to demand centers, is often the driving factor for sources of production and supply. In the past 20 years, the market dynamics of production, trade and incremental supply have shifted as new smelters were constructed in response to the development of new low cost energy supplies. This can be seen in the construction of new smelters in inland China with access to large supplies of coal fired electricity and in the Middle East where aluminum is often viewed as a portfolio diversification strategy to the regions large hydrocarbon endowment. This shift in production capacity has altered the supply dynamics for several of the larger consuming regions including North America.

Ten years ago the marginal supply of aluminum into the U.S. was from smelters in Quebec taking advantage of the region's large hydroelectric capacity. Since 2000, global demand has increased by 80%; during this period Canadian aluminum output has increased by only 20%, limited by the availability of new suitable hydroelectric locations. Over the same time frame, the energy-rich Middle East has increased aluminum output by over 300%, shifting a potential source of incremental supply to the opposite side of the Atlantic. This shift in supply has lengthened the supply chain to meet the last tonne of demand for U.S. aluminum consumers. On a macro level, this shift is beneficial to consumers due to the downward pressure on the price of aluminum (on a real basis) with marginal production replaced by more cost efficient modern capacity. However, the secondary effect is to widen the spread between the global benchmark aluminum price (the LME price) and the actual price for delivery in a given region (the regional premium). In simplified terms, the regional North American aluminum premium is now structurally higher versus the LME benchmark as the marginal supply chain has been extended from Quebec to the Middle East. The following figure illustrates the growth of new production from the Middle East and the North American premium as discussed above.



The global aluminum production industry is much less concentrated today than in the past. In the 1970s, the six majors had over 70% of the output. Today, this has been reduced to less than 40%. The pattern is similar for the bauxite mining and alumina industries. Many producers are not fully integrated in upstream and downstream operations as was more prevalent in the past.

Aluminum is transported in the form of bars or ingots by ship on waterborne routes or by rail and truck within land-only accessible regions. Aluminum is relatively easy and inexpensive to store and there are significant inventories stored in warehouses. Some warehouses are LME bonded, which means that the aluminum stored there must meet LME standards and be an LME approved brand.

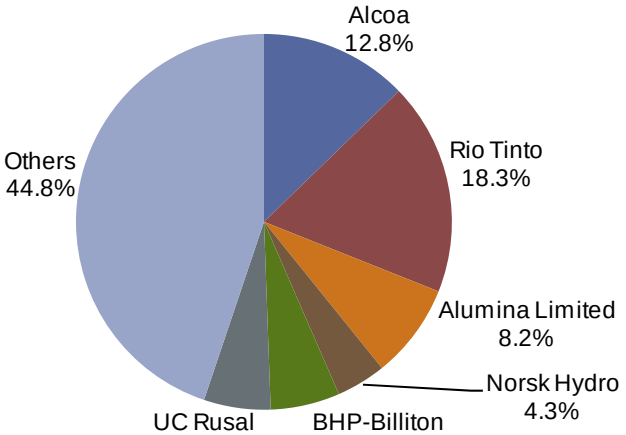
Players

The aluminum industry is made up of mining companies, bauxite refiners that produce alumina and aluminum smelters that produce primary aluminum. Some companies are vertically integrated in some or all of these functions. Companies downstream of these entities can produce many forms of aluminum products such as sheet, tubing, pipe, plate and beverage can stock. These functions can also be vertically integrated. Some of the major bauxite and alumina producers are:

- Alcoa (AWAC)[56]
- Rio Tinto Alcan
- Alumina Ltd. (AWAC)[56]
- Norsk Hydro
- BHP Billiton-bauxite
- UC Rusal
- Chinalco/Chalco
- Chiping/Xinfa-alumina

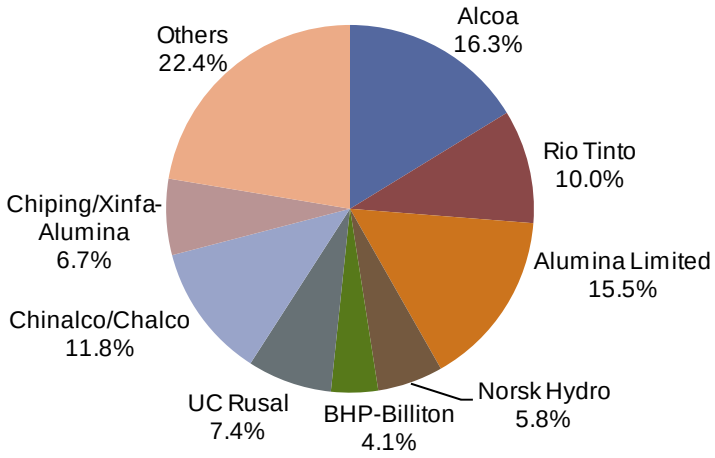
[56] Alcoa Worldwide Alumina and Chemicals is a joint venture between Alumina Ltd. (40%) and Alcoa (60%), the joint venture is involved in the mining of bauxite and alumina refining.

Figure 20
Bauxite Production Participants (2012)



Source: World-Aluminum website and individual company 10-K statements

Figure 21
Alumina Production Participants (2012)

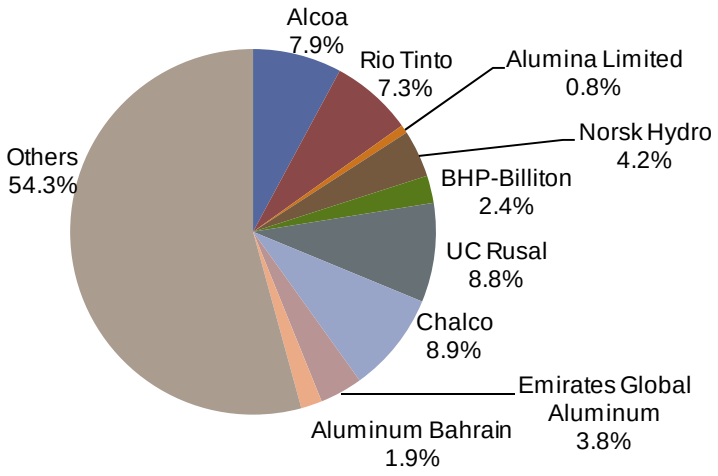


Source: World-Aluminum website and individual company 10-K statements

The production of aluminum is less concentrated, although major Chinese producers account for significant share when taken together. Major aluminum producers include the following:

- Alcoa
- Rio Tinto Alcan
- UC Rusal
- Norsk Hydro
- Chalco
- BHP Billiton
- Emirates Global Aluminum
- Aluminum Bahrain

Figure 22
Aluminum Production Participants (2012)



Source: World-Aluminum website and individual company 10-K statements

In each of the three figures above, a few companies have notable market share but clearly none have an overly dominant global position.

Other participants in the market are commodity trading firms and banking entities that take physical ownership of primary aluminum. The ownership of LME warehouses typically falls under one of three participant groups including banks, large trading firms, and independent storage operators. The largest owners of LME bonded warehouses include the following:

- J.P. Morgan
- Goldman Sachs
- Vollers Group
- Glencore Xstrata
- C. Steinweg
- CWT Commodities
- Trafigura
- Noble Trading

Consumers of aluminum are involved in the packaging, automotive and construction industries. Typical consumers of aluminum are as follows:

- Automobile manufacturers: aluminum content per car has doubled over the last 20 years
- Airplane manufacturers
- Beverage can makers: cans today contain mostly recycled aluminum
- Other food containers
- Structural building products, cladding, windows and door frames

COMMODITY TRADE

Aluminum is freely traded on commodities markets such as the LME and the Shanghai Metal Exchange Market (SHFE). The LME is the major price setting market. Financial contracts on the exchanges allow all those along the metal supply chain, as well as investors, to hedge against or take on price risk. An exchange contract is standardized with the obligation to buy or sell a standard quantity of a specified asset (metal) on a set date at a fixed price, agreed upon today. The standard quantity of aluminum contracts on the LME is 25 metric tons.

The LME differs slightly from the other major commodities exchanges in several important ways. The settlement of traded contracts is not done on a cash basis as on the NYMEX, but in the form of a physical commodity receipt, represented by the establishment and transfer of ownership warrants. The LME contract is not structured to represent delivery of aluminum at a single fixed location (e.g. "FOB" or Freight on Board for a specific location), such as Cushing, Oklahoma, for U.S. light sweet crude and Erath, Louisiana, for Henry Hub natural gas. Instead, when purchasing aluminum on the LME the physical location of the aluminum can come from any one of the hundreds of LME bonded warehouses located around the globe. On the LME exchange, the operating practice leaves flexibility to the discretion of the seller on setting locational basis.[57] As such, taking physical delivery of the aluminum being purchased on the exchange involves either additional costs such as transportation, intermediate storage and handling, financing and insurance or a secondary market transaction to trade delivery locations.

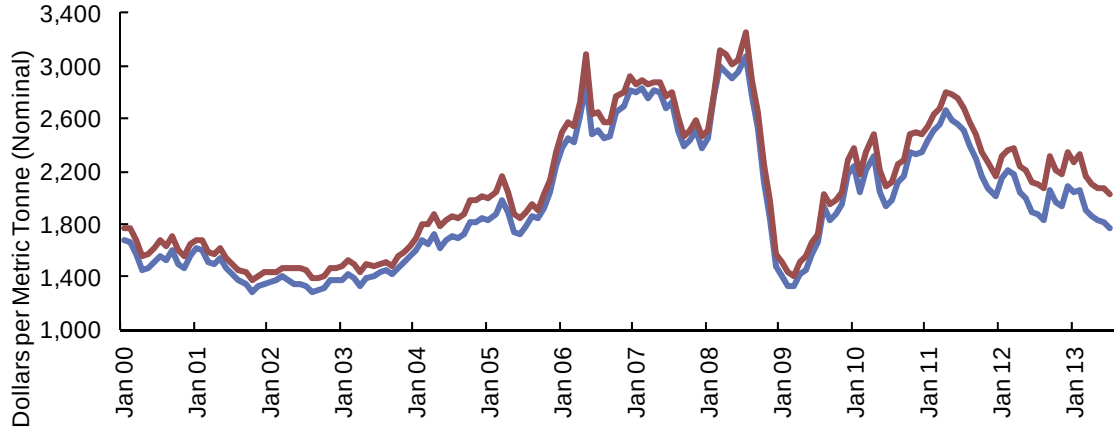
These incremental costs are reflected in the regional delivered price of the aluminum purchased. The difference between the LME benchmark cash price and the regional delivered price is known as the regional premium.[58] The key point is that the LME benchmark cash price is a reflection of global supply, demand, production costs and other macro fundamentals, while the premium reflects regional imbalances in production, demand, inventory and transportation costs. For example, from 2009 through 2012 the global surplus in primary aluminum exceeded 6 million metric tonnes providing downward pressure on the LME benchmark cash price, while the U.S. market was in supply and demand deficit by more than 11 million metric tonnes, helping drive the U.S. Midwest premium to levels last observed in the 1990s.

Most commodity markets work this way, establishing a central price and then assessing premiums or discounts to that reference price to account for quality differentials, transport costs and other individualized differences. For example, with crude oil, the NYMEX traded contract is backed by light sweet crude oil located in storage tankage at Cushing, Oklahoma. But there are no physical refineries located in Cushing, Oklahoma. The delivered cost to individual end user refineries will reflect the Cushing, Oklahoma spot price, plus the cost to move those crude oil barrels from the storage hub to individual refineries (including pipeline tariffs, insurance, additional intermediate storage and handling costs by third party intermediaries). Furthermore, things such as logistics bottlenecks, marine shipping costs, infrastructure disruptions, security premiums and geographic distance are all influencing factors in determining the price spread (or premium) between the commodities exchange benchmark price and the physical commodity delivered cost to end users.

[57] Metals Trading Handbook, p. 19-20.
[58] There are four major regional premiums, North America (U.S. Midwest), Europe (Rotterdam), SE Asia (Johor, Malaysia and Singapore) and NE Asia (Shanghai and Japan).

While the regional premiums for aluminum have increased, the absolute price of aluminum, both on an LME basis and at the delivery points commonly transacted by real world buyers and sellers, has declined since 2008 consistent with supply and demand fundamentals. The Midwest delivery price, used by key U.S. manufacturers, and the LME price is shown in the figure below.

Figure 23
Aluminum Prices



Source: LME, IHS

FINANCING ALUMINUM INVENTORIES

Aluminum production moves from producer to customer through long term contractual arrangements and sport transactions. The LME inventories and associated warehouses are generally viewed as the buyer of last resort by market participants. Over the past few years, aluminum inventories have increased markedly due to the convergence of four factors.

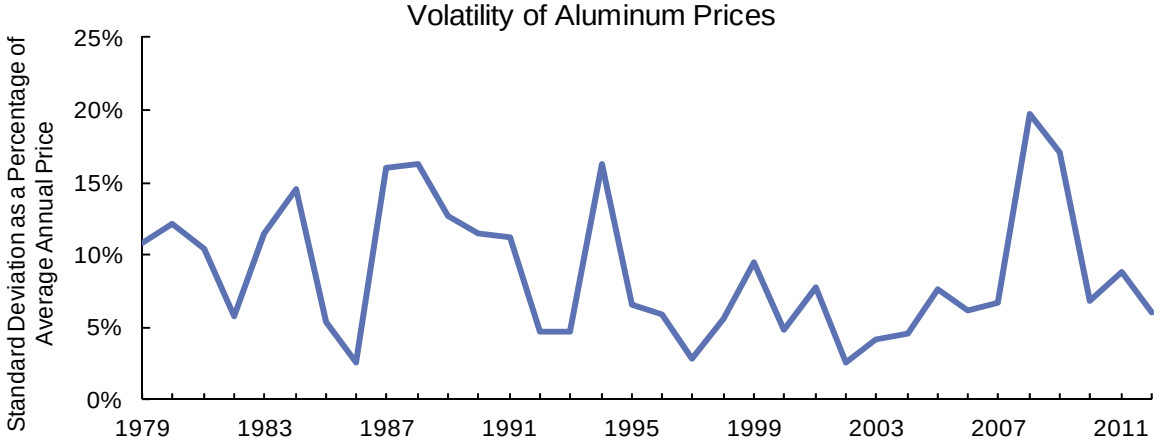
- An overcapacity of production following a cyclical drop in demand, as occurred during the 2008-2009 timeframe, punctuated by upheaval in the end use market which saw the bankruptcies of GM (a major consumer), the City of Detroit (a major hub), and Ormet (a producer) in the past five years;
- Strong contango market structure where future prices on exchanges are higher than current prices;
- Low interest rates; and
- Low storage costs—aluminum is relatively inexpensive to store compared to most commodities.

Given these four factors, market participants have been able to purchase production, finance its storage at low rates in anticipation of future demand and hedge the price risk in the future, thereby creating an “inventory arbitrage” where the risk is low and the return is known.

At a macro level, these banking and large trading entities are providing a service to producers by enabling production facilities to continue operating despite a significant slackening in demand, thus avoiding expensive shutdown and restart costs. Without this activity, production would be lower and additional capacity would be shuttered. When global economic activity increases, demand for aluminum will recover and interest rates will increase. These inventories will already be sitting in warehouses in usable form, benefiting consumers by tempering price increases. The incentives and benefits associated with providing financial inventory support are discussed in greater detail in Section II, Case Study: Non-Ferrous Market Support via Metals Inventory.

With the exception of the 2008-2009 financial crisis, when most markets were volatile, aluminum price volatility has been markedly lower since the banks entered the market in the early 1990s. The following figure illustrates the lower price volatility in the aluminum market in the time period after bank involvement in the market.

Figure 24
Volatility of Aluminum Prices



Source: London Metal Exchange (LME)

APPENDIX B: HEDGING MECHANICS IN THE PHYSICAL MARKETS

Hedging encompasses a wide range of possible financial instruments, physical tactics and overall strategies. The concept of hedging is relatively simple; however, the implementation of even a basic hedging strategy becomes complex as physical cargoes and financial instruments flow over the hedging period. We provide examples of hedging below to illustrate business purpose, tactics and limitations. While these examples are for crude oil and refined products, they are equally applicable to other commodities.

CRUDE OIL AND REFINED OIL PRODUCTS

While futures exchanges are necessary tools for commodity risk management, there are two reasons why end users prefer banks to manage their oil price risk rather than rely on exchanges: (1) the exchanges offer an important but limited range of products that typically do not precisely match the actual risk the users face; and (2) end users frequently do not have the credit capacity necessary to access the exchange-based products and the margining procedures on which the clearing houses depend.

CONTRACTS OFFERED BY REGULATED EXCHANGES

The CME/NYMEX lists a very wide range of crude oil and refined oil product contracts. However, except for in the major benchmark grades, the liquidity available in these contracts is inadequate for all but the very smallest of users. This manifests itself in some cases in wide bid-offer spreads and, in other cases, in no volume being transacted for several days and contracts that report very low levels of open interest. So, although an apparently wide range of oil contracts is listed by regulated exchanges, end users seek market makers off exchange or OTC products to find counterparties who will take the other side of their deals. Most OTC contracts are settled outside the exchange and while there is a desire by some to move these deals onto the exchange and settle through the clearing house mechanism, the liquidity in all but the traditional benchmark contracts is quite low, therefore of limited use for physical users. Illiquidity may also present challenges for customers hoping to achieve hedge accounting standards.

BASIS RISK

The nature and size of a basis risk is often misunderstood and under-appreciated. Using a fruit analogy, it is not simply that end users are forced to hedge the price risk of physical oranges with an exchange traded contract in apples. It may be that the end user has to hedge the basket price of oranges, lemons, and grapefruit for delivery in California tomorrow with a futures contract in apples for delivery in the Gulf Coast in two months' time. In other words, there is product, location and timing basis risk.[59]

Banks make markets to manage basis risk, but these risks do not disappear and still need to be managed. Exchange-based tools do not exist for the banks to manage basis risk. If they did, end users would be able to use them themselves and would not need the banks. Instead the banks manage the risk by taking physical delivery of the product and arranging blending, storage and transportation to minimize and dissipate the different types of basis risk.

[59] The difference between movements in the price of the underlying commodity and movements in the reference price of the hedge.

It is instructive to compare the list of crude oils and refined products provided by a Price Reporting Agency (PRAs), such as Platts, with the list of exchange traded contracts provided by CME/NYMEX. The Platts list of products is considerably more extensive and even so is nowhere near an exhaustive list of the crude oils and refined products that are actually traded in the market.[60]

U.S. REFINER HEDGE EXAMPLE

A U.S. Gulf Coast refiner needs to secure a supply of crude oil feedstock for its refinery and enters into a spot contract with a West African producer. The refiner commits to buy a typical sized 1 million barrel cargo of Nigerian Bonny Light crude oil[61] with a scheduled loading date of January 15-17.

It will take approximately 15 days to ship the crude oil across the Atlantic and a further 15 days for the refiner to process the crude oil and sell the refined products. In addition, there is a multi-day period between when the crude contract is signed and the crude is loaded onto a ship in Africa.

As an ongoing business, the refinery seeks to achieve a positive net cash cost margin and sell the refined products at a price that at least covers the crude purchase price, trans-Atlantic freight cost, and refinery operating cost. The refinery is willing to take some margin risk but wants to hedge a portion of the crude and refined product price risk over the delivery and processing time. Rapid price movements of either crude or products during this 30-day period can adversely affect the refining margin. To secure its refining margin both the crude oil price and the refined product prices need to be fixed at the current positive market margin. Writing contracts at a fixed absolute price in physical contracts is atypical in the oil market. So the refiner seeks a hedge to manage risk.

This somewhat simplified example illustrates the risks that a refiner faces, which cannot be managed using regulated exchanges, and which requires the risk management services offered by banks.

Hedging a Crude Oil Purchase

First Risk (Price Risk)

Physical crude oil is sold at a formula price that references a specific crude oil grade. It is extremely unusual to buy crude at a fixed price of $X/bbl. Instead, the contract prices the crude based on a formula that establishes the price at or near the loading date of the cargo in question, which is typically 15-45 days after the contract execution. This is referred to as the “floating price” since is moves with the market. In the case of Bonny Light, the crude oil price formula is expressed as the market price as quoted by a PRA, such as Platts, on a five day average after the bill of lading (B/L) date (the day the ship is loaded). The B/L is the document that is used to establish the applicable price for invoicing and taxation purposes for a crude oil producer.

The refiner, as mentioned above, wants to fix the price at which it buys the crude oil as a key component of its effort to lock in a refining margin. To protect the crude-side of the margin, on the day that that the physical crude contract is signed (15-45 days in advance of the scheduled loading date), the refiner will need to buy a crude oil hedge instrument at a fixed price. For illustrative purposes we will assume that the physical January 15-17, cargo purchase contract is agreed to on December 15. To complete the crude oil hedge, the refiner will then sell that same hedge instrument over the five days after the B/L date of the cargo, to offset the financial exposure represented by the

[60] Platts PRA provides crude oil price assessments for over 110 grades of crude oil versus the three grades covered by the commodities exchanges.
[61] The cost of the cargo is $100 million at a crude price of $100 per barrel.

physical five days purchase (the floating physical contract formula price). Using the financial instrument in combination with the physical contract, the refiner has effectively established a fixed crude oil price for the loading date 30 days hence from the contract execution, no matter how world crude oil prices change.

Now, let's examine the financial instruments involved. There is no regulated futures exchange contract in Bonny Light crude oil. There are only three benchmark grades of crude oil that have futures contracts with reasonable liquidity: WTI (U.S. Light Sweet crude oil), Brent and Oman. The benchmark grade that shows the closest correlation with Bonny Light is Brent. Both CME/NYMEX and the Intercontinental Exchange (ICE) list Brent contracts, but liquidity is considerably better on the ICE contract. In our example, the refiner hedges the crude cargo purchase by buying 1,000 ICE Brent futures contracts at a fixed price of $110/bbl, for example, on December 15.

Second Risk (Timing Risk)

The refiner now faces a timing basis risk exposure. To complete the hedge of the physical purchase the 1,000 lots of ICE Brent futures need to be sold on the five days after the B/L date. The B/L date of a cargo scheduled to load January 15-17 can vary, but is likely to be on or about January 18. So, the refiner will need to sell 200 lots of ICE Brent contract on each of the five days of January 19-23, i.e. the five days after the B/L date (ignoring weekends for simplicity's sake.)

Now let's consider the actual futures contract used to conduct this hedge. The ICE quotes contracts for each month. The ICE Brent contract expires on or about 15th of the month prior to the contract month. So on January 19-23, the "near month" ICE Brent contract will be the March contract. In order to fix the price of a physical *January* 15-17 delivery cargo purchase contract, the refiner will have to buy the futures *March* Brent contracts, because by the date the ship loads, the January and February futures contracts available at contract execution will have expired.

The real issue is that by purchasing the March ICE contracts when the physical contract was signed in mid-December, the refiner has taken on a timing basis risk. If the market "timing structure" shifts between December 15 when the hedge is purchased and January 19-23 when the hedge is sold, the refiner could lose the effectiveness of the hedge. Timing structure is the degree to which future prices vary from current "near month" and in this case, if the market shifts into steeper backwardation, the refinery will pay a higher price for the physical oil than the price at which it will be able to sell (i.e. cash settle) its March Brent contract hedges.

Fortunately, there is an OTC market in which this timing basis risk can be hedged. This is the dated-to-paper contract-for-difference (CFD) swap market (an OTC product). This is an actively traded market but participation is not widespread and is generally restricted to large oil companies, trading houses and banks. In the oil market, the term CFD is reserved for the particular swap in the differential between the price of Dated Brent and the price of the 25-Day BFOE forward Brent contract. Dated Brent refers to cargoes of Brent loading in the next rolling 10-25 days from the date of publication of the price. The term 25-Day BFOE refers to cargoes loading from 25 days forward from the date of publication of the price to about six months forward, quoted in monthly contracts.

The 25-day BFOE forward contract shows a close correlation with the ICE Brent futures contract because the latter is cash-settled by reference to the 25-day BFOE market. There is usually an exchange-for-physical (EFP) differential between the two of about $0.10-0.25/bbl. Nevertheless, the CFD is the best hedging instrument available to manage the price difference between Dated Brent and futures Brent. When the EFP differential gets too wide, the banks are active traders in the

arbitrage between the forward and futures contracts helping maintain this spread at reasonably small levels. They do this by buying and selling 25-Day BFOE physical cargoes which are traded in lots of 600,000 barrels and which expire early in the contract month, and selling or buying the futures contract, which is traded in lots of 1,000 barrels, which expires midway through the month before the month of loading. This is a common example of convergence between physical and financial commodity instruments possible only with physical market participation.

Using the tight physical to financial tie in the Dated Brent market, the refiner can hedge timing risk by buying the CFD week represented by the January 19-23 date range at a fixed price of, say, $0.50/bbl, in this example. To achieve this, the refiner will cash settle by selling at the actual average price differential between Dated Brent and March delivery 25-Day BFOE Brent over the 5 days of January 19-23. By adding these two hedging steps (CFD and March Brent) together, the refiner has now effectively fixed the price of the cargo at $110+0.50=$110.50/bbl.

Third Risk (Quality Basis Risk)

The refiner has one additional basis risk to consider the difference in the price of physical Bonny Light crude oil and the price of Dated Brent crude oil, which has been used to hedge its physical Bonny light price risk. If the price of Bonny Light rises relative to that of Dated Brent between December 15, when the hedge is opened, and January 19-23, when the hedge is closed, the hedge will be less effective and the refinery will pay a higher price for the physical oil than the price at which it is able to sell (i.e. cash settle) its combined CFD/March Brent futures contract hedges.

There is no active market, regulated or OTC, in which the Bonny Light/Dated Brent price differential can be hedged. The refinery may be willing to retain this risk. Ideally, the physical contract pricing terms could be changed, but this simply transfers the risk to the producer, who is generally unwilling to take the risk and in our case, the formula is an official government formula applied to all producers equally. However, with intimate market knowledge and crude valuation theory, banks and others can manage this price differential risk by trading in physical Bonny Light and/or in the refined products that can be produced from it.

The market drivers for changes in Bonny Light/Dated Brent price differential are mostly related to the value of the products produced from the two different crude qualities. This is referred to as the Gross Product Worth (GPW). For example, the GPW of Bonny Light is calculated by summing the prices of each of the products that can be produced from Bonny Light multiplied by the quantity of that product.

$GPW_{Bonny\ Light}$ = (Quantity of Product 1 x Price of Product 1) + (Quantity of Product 2 x Price of Product 2) + (Quantity of Product 3 x Price of Product 3), etc.

This market price differential will necessarily have more basis risk but can still be useful, particularly when considering crude oils with large quality (and price) differences, like the heavy sour crude grades often processed by U.S. refiners in the Gulf Coast refining system. In the absence of an exchange or OTC traded contract for this quality basis risk, the refiner may use a bank market maker to fix the Bonny Light/Dated Brent price differential. It may manage to fix this differential at an attractive level on December 15, at +$1/bbl, for example. This protects the refiner against a widening of the differential between December 15 when the physical purchase decision was made and January 19-23 when the price formula under the physical contract is calculated by reference to Platts.

The analysis above of the refiner's attempts to "lock in" the refining margin has focused on hedging the price that the refiner must pay to buy the Bonny Light crude oil feedstock. By a combination of hedging with futures, buying CFD in the OTC market and using a market maker to handle quality basis risk, the refiner has more or less managed to fix the purchase price of its Bonny Light feedstock at $110 + 0.50 + 1/bbl = $111.50/bbl.

Hedging a Refined Product Sale

But the refiner must also protect the sales price of the refined products that will be produced from the refinery one month later (allowing for shipping time and time to transit the refinery) to secure its margin (and profit). The formula price under which the refiner sells its physical products will depend on the refinery's logistics and whether the refiner sells into the seagoing or barge market or into, as an example, the Colonial Pipeline.

The futures exchanges offer a range of U.S. product contracts, many of which are illiquid and show a wide bid-offer spread and a large EFP differential. The prices of many more products are published by PRAs and in the case of refined products in the U.S., the dominant PRAs to which physical contract price formula refer are Argus Media and Platts.

Crack Spreads

In our example, the refiner could try to hedge the product pricing by using a standard contract like a crack spread. These crack spread contracts are generic and do not reflect the GPW of any particular refinery. Crack spreads are generally expressed as a ratio, such as A:B, A:B:C or A:B:C:D where:

- A represents the number of barrels of crude oil purchased
- B represents the number of barrels of gasoline sold
- C represents the number of barrels of ultra low sulfur diesel (ULSD) sold
- D represents the number of barrels of fuel oil sold

The most widely used cracked spreads are the:

- 3:2:1. This means that for every 3 barrels of crude purchased, 2 barrels of gasoline and 1 barrel of ULSD are sold
- 5:3:2. This means that for every 5 barrels of crude purchased, 3 barrels of gasoline and 2 barrel of ULSD are sold
- 2:1:1. This means that for every 2 barrels of crude purchased, 1 barrel of gasoline and 1 barrel of ULSD is sold

These exchange traded crack spreads are not only illiquid, they constitute a very poor reflection of the actual price risk faced by an individual refiner. Banks offer more highly tailored crack spreads. For example, a refinery that processes a very heavy grade of crude oil and which has some upgrading capability may seek something more like a 6:3:2:1 crack spread (where the "1" adds residual fuel oil product). The more highly tailored a crack spread the less easy it is to trade. Banks overcome this challenge by unbundling the components of the crack and hedging them separately both on exchange and off exchange using physical refined product contracts.

Hedging Summary

Our example refiner has managed through combining a number of exchange trades, OTC contracts and bank help to provide a reasonable refining margin hedge on a single cargo of crude oil. Without these instruments the refiner's operating profit is largely unknown and uncontrollable for an extended period of time. In this example, we have broken down the major contracts and steps involved but in practice, a small or medium sized refiner does not have the capability to complete and manage these transactions and will engage a bank to advise with this hedge and perform the services above described.

Financing the Hedger

This brings us to the other role of the banks in the oil market, financing the operations of small producers and refiners. A producer requires payment for crude oil on or about 30 days after the B/L date. The refiner may not be paid for the products for a further 10-30 days after that, depending on how and when the products are delivered. Small refiners often bridge that financing gap using a bank that may require taking physical delivery of the products to sell on its own account in order to safeguard itself against default by the refiner. Without the credit security of taking title to the physical products, lending to a cash-strapped refinery can be a risky proposition for a bank. Without physical security the bank would otherwise have to charge a high rate of interest to assume that type of risk.

The role of the banks in financing hedges is paramount. If the refiner we have used in our Bonny Light example uses a futures exchange to carry out its hedges, it has to have ready access to substantial amounts of cash to meet its margin calls. As discussed above, this particular refiner would probably have to use the ICE Brent contract to hedge its physical crude price risk. Since it is based in the U.S., the best available futures contracts to hedge its products sales price would be CME/NYMEX. Hence, it has to find two sets of initial and variation margins to hedge its long position on ICE and its short position on CME/NYMEX.

If it tried to reduce its margin exposure by placing all its hedges, both long and short, on CME/NYMEX, it would first have to bear the low liquidity cost of the CME/NYMEX Brent contract; but secondly, it would still have to bear full margin payments for the period of time when the long crude oil hedges are closed (January 19-23) and the time when the short refined product hedges are closed perhaps 10-15 days later, depending on the precise sales price formula under its physical product sales contracts.

Banks are able to take a comprehensive approach to the margining of producers' and refiners' hedges. A clearing house backing an exchange sees only the long or short positions held by the hedger on its exchange. It does not see the physical underlying contract that is being hedged. It assesses the riskiness of a long or short position without the context of the physical offset that significantly reduces the hedger's overall risk. But a bank doing the same business OTC with the refiner can not only see the hedges, but the existence and pricing of the underlying crude and products being hedged, and has more accurate parameters to feed into its risk assessment calculation. This reduces the margining required from the refiner and may eliminate it altogether if the hedger uses the same bank for both the financing and related hedging.

APPENDIX C: BIOGRAPHIES

This IHS report draws on the multidisciplinary expertise of IHS Inc.

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APPENDIX D: GLOSSARY

Arbitrage: The practice of taking advantage of a price difference between two or more markets—striking a combination of matching deals that capitalize upon a price imbalance, the profit being the difference between the market prices. An arbitrage transaction offers the possibility of virtually risk-free profit. For instance, an arbitrage is present when there is the opportunity to instantaneously buy low and sell high (across two markets).

B/D: Standard daily measurement of oil. Barrels per day. One barrel equals 42 U.S. gallons.

BCF/D: Standard volumetric measurement unit for natural gas. Billion cubic feet of gas per day.

BFOE: North Sea Crude oil contract. Stands for Brent, Forties, Oseberg and Ekofisk crude oil grades.

Backwardation: A situation where the price of a commodity for delivery in the future is lower than the price for immediate delivery. Opposite of contango.

Basis Risk: The difference between movements in the price of the underlying commodity and movements in the reference price of the hedge.

Benchmark Prices: An objective and transparent reference price for a commodity (e.g. WTI crude oil), which includes specification of product grade and point of delivery.

Cpg: U.S. cents per gallon.

Clearing House: An institution that provides settlement services for financial and commodities derivatives and securities transactions. These transactions may be executed on a futures exchange or securities exchange, as well as off-exchange in the OTC market. A clearing house stands between two clearing firms (also known as member firms or clearing participants) and its purpose is to reduce the risk of one (or more) clearing firm failing to honor its trade settlement obligations. A clearing house reduces the settlement risks by netting offsetting transactions between multiple counterparties, by requiring collateral deposits (also called "margin deposits"), by providing independent valuation of trades and collateral, by monitoring the credit worthiness of the clearing firms, and in many cases, by providing a guarantee fund that can be used to cover losses that exceed a defaulting clearing firm's collateral on deposit.

Contango: A situation where the price of a commodity for delivery in the future is higher than the price for immediate delivery. Opposite of backwardation.

Credit Extension: To lend money (either by extending cash funds or by waiving a need to remit cash funds) on the basis of the strength or quality of the risk of a counterparty, the value of expected associated future cash flows, or the value of an underlying asset posted as collateral to secure the transaction.

Flat Price Risk: Risk posed by changes in underlying commodity price.

Forward Spread: Price difference between spot price and next month forward price. Typically defined as Month 1 vs. Month 2 on futures commodity exchange. A positive forward spread occurs in a backwardated market and negative spread in contango market.

Futures Contract: A standardized contract, offered by an exchange or clearing house with a standard set of terms and conditions, to buy or sell a predetermined volume of an asset (often a commodity) at a predetermined price and location, on some established date in the future.

Futures Market: The market for a good expressed in terms of future delivery. Exchanges such as the Chicago Board of Trade (CBOT) act as a platform of standardized contracts for future delivery of commodities.

Hedge: A transaction that insulates the party from risk of a movement in an asset's price, by offering an offsetting risk of price movement in the opposite direction for the same good. The counterparty might be an exchange or clearing house in the case of standard exchange traded hedge products, or a bank in the case of a tailored OTC market solution.

kWh: Standard measurement of electric power. Kilowatt-hour.

Long Position: A financial position with the expectation that the underlying asset will rise in value.

MMBTU: Standard heat content measurement unit for natural gas. Million British Thermal Units.

Market Liquidity: The presence of a sufficient volume of open buyers and sellers to enable willing counterparties to trade with minimal price disturbance. This results in relatively efficient markets as measured by the difference in open bids and offers for a given product (bids-ask spreads). Market liquidity is often measured in average daily trading volume.

Market (Price) Discipline: Buyers and sellers in a market are said to be constrained by market discipline in setting prices because they have strong incentives to maximize profit and avoid bankruptcy. This means, in order to meet economic necessity, buyers must avoid prices that will drive them into bankruptcy and sellers must find prices that will maximize profit (or suffer the same fate).

Over-the-Counter Contract: A contract, typically offered privately by a bank or trader, to buy or sell a predetermined volume of an asset (often a commodity) that has the potential to be tailored in terms of product, grade, volume, price, tenor and point of delivery.

Play: A group of fields and or potential fields that have similar geologic characteristics. Exploration methodology and production is generally similar and shared.

Price Convergence: When two prices for a product, most often in two different forms or locations, move closer together over time. Generally refers to convergence between a futures price and underlying cash price for a commodity.

Public Exchanges: Public exchanges are trading venues open to all interested parties (many sellers and many buyers) that use a common technology platform and that are usually run by third parties. Public exchanges support trading activities in a wide range of commodities.

Short Position: A financial position with the expectation that the underlying asset will decline in value.

Spot Market: The market for a good with immediate delivery. Also referred to as the cash market.

Standardized Contract: The commercial terms that govern OTC contracts and futures contracts tend to be standardized. For example, most OTC swaps are executed under common ISDA (International Swap Dealers Association) contract. Similarly, futures contracts, even on different exchanges, tend to be governed by a standardized set of commercial terms.

Volumetric Production Payment (VPP): An extension of credit where resource producers agree to deliver a certain amount of production over a set period of time (e.g. forward sale of production), ranging from 5-15 years. Banks pay a fixed price, as a lump-sum cash payment in advance. The seller is responsible for delivering gas up to the agreed upon amount and the operating cost to produce gas. The collateral to this transaction is the physical delivery of future production.

APPENDIX H

ASSOCIATIONS

SIFMA. The Securities Industry and Financial Markets Association (SIFMA) brings together the shared interests of hundreds of securities firms, banks and asset managers. SIFMA's mission is to support a strong financial industry, investor opportunity, capital formation, job creation and economic growth, while building trust and confidence in the financial markets. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association (GFMA). For more information, please visit www.sifma.org.

THE AMERICAN BANKERS ASSOCIATION. The American Bankers Association represents banks of all sizes and charters and is the voice for the nation's $14 trillion banking industry and its 2 million employees. Learn more at www.aba.com.

FINANCIAL SERVICES FORUM. The Financial Services Forum is a non-partisan financial and economic policy organization comprising the CEOs of 18 of the largest and most diversified financial services institutions with business operations in the United States. The purpose of the Forum is to pursue policies that encourage savings and investment, promote an open and competitive global marketplace, and ensure the opportunity of people everywhere to participate fully and productively in the 21st-century global economy.

FINANCIAL SERVICES ROUNDTABLE. As *advocates for a strong financial future*™, FSR represents 100 integrated financial services companies providing banking, insurance, and investment products and services to the American consumer. Member companies participate through the Chief Executive Officer and other senior executives nominated by the CEO. FSR member companies provide fuel for America's economic engine, accounting directly for $98.4 trillion in managed assets, $1.1 trillion in revenue, and 2.4 million jobs.

INSTITUTE OF INTERNATIONAL BANKERS. The Institute of International Bankers (IIB) is the only national association devoted exclusively to representing and advancing the interests of the international banking community in the United States. Its membership is comprised of internationally headquartered banking and financial institutions from over 35 countries around the world doing business in the United States. The IIB's mission is to help resolve the many special legislative, regulatory, tax and compliance issues confronting internationally headquartered institutions that engage in banking, securities and other financial activities in the United States. Through its advocacy efforts the IIB seeks results that are consistent with the U.S. policy of national treatment and appropriately limit the extraterritorial application of U.S. laws to the global operations of its member institutions. Further information is available at www.iib.org.

APPENDIX I

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