

A FUTURE FOR RESERVE-BASED LENDING IN EMERGING MARKETS? LIMITATIONS OF THE TRADITIONAL MODEL*

MICHAEL P. MAREK & ROBERT A. WILSON**

I.	INTRODUCTION	150
II.	RBL IN DOMESTIC MARKETS.....	151
	A. The Traditional Model.....	152
	B. Limitations of the Traditional Model.....	155
	1. Commodity Price Volatility.....	156
	2. Lender Revision of the Borrowing Base	158
	3. Complications in Tribal and Federal Lands	159
	C. Alternatives to RBL	161
	1. Volumetric Production Payment	161
	2. Private Equity Funding.....	163
	3. Mezzanine Financing.....	163
III.	RBL IN INTERNATIONAL MARKETS.....	164
	A. North Sea Reserve-Based Loans.....	165
	B. Case Studies: Petroceltic and Tullow.....	167
IV.	FACTORS LIMITING RBL IN EMERGING MARKETS.....	169
	A. Security Interests	169
	B. Deliverability	172
	C. Political Risk	174
V.	CONCLUSION	177

* Special thanks to Professor John Dzienkowski, Jay D. Kelley, and Ryan Hunsaker who provided the authors invaluable insight into oil and gas financing practices.

** Michael Marek is a graduate of the University of Texas J.D./M.B.A. program and former editor-in-chief of the Texas Journal of Oil, Gas, and Energy Law. Michael will begin his practice at Vinson & Elkins in March of 2015 in the firm's combined capital markets and mergers and acquisitions practice. Robert Wilson is an associate in the combined capital markets and mergers and acquisitions group of Vinson & Elkins LLP's Houston office. Robert received his J.D. from Harvard Law School in 2013 and his B.B.A and B.A. from the University of Texas at Austin in 2009. Robert served as a staff editor on the Texas Journal of Oil, Gas, and Energy Law during a visiting semester at the University of Texas School of Law. This article is intended for educational and informational purposes only and does not constitute legal advice or services. If legal advice is required, the services of a competent professional should be sought. These materials represent the views of and summaries by the authors. They do not necessarily reflect the opinions or views of Vinson & Elkins LLP or of any of its other attorneys or clients. They are not guaranteed to be correct, complete, or current, and they are not intended to imply or establish standards of care applicable to any attorney in any particular circumstance.

I. INTRODUCTION

Oil and gas exploration and production (E&P) is a capital-intensive business. Global upstream investments may require up to \$15 trillion over the next two decades,¹ with the U.S. shale revolution accounting for as much as one-third of this total.² In 2013 alone, global E&P expenditures hit a record \$678 billion.³ Although producers expend the bulk of this capital up front to drill wells, they recoup costs only gradually as they prove up and sell off production. Large International Oil Companies (IOCs) have the balance sheets to finance such expenditures internally or turn to public debt and equity markets. Most small to midcap companies, however, lack this flexibility and will look to external sources for financing.

Financing structures for oil and gas are many, varied, and have grown increasingly complex as the market for financial instruments has expanded. Of these structures, reserve-based lending (RBL) is generally considered the mainstay of the industry.⁴ Although some commentators trace the origins of RBL to financing the 1970s oil boom in Texas, the roots of RBL stretch back much further to asset-based lending.⁵ At its core, the traditional reserve-based loan is little more than an asset-backed loan, a mortgage secured by oilfield reserves rather than a home. More than four decades later, RBL remains a popular method for financing oil and gas transactions in the United States, as evidenced by recent transactions involving small to midsize E&P companies,⁶ but has not

1. INTERNATIONAL ENERGY AGENCY, 2012 WORLD ENERGY OUTLOOK: EXECUTIVE SUMMARY 4 (2012), available at <http://www.iea.org/publications/freepublications/publication/weo-2012---executive-summary---english-version.html>.

2. PRICE WATERHOUSE COOPERS 2, THE US ENERGY REVOLUTION: THE ROLE OF PRIVATE EQUITY IN OIL AND GAS (Feb. 2013), available at http://www.pwc.com/en_GX/gx/oil-gas-energy/publications/pdfs/pwc-usenergy-revolution-role-of-private-equity-v2-pdf.pdf (predicting that the shale revolution will “require more than \$5 trillion in investment over the next 20 years in the US alone”).

3. Collin Eaton, *Oil Producers Slow Spending in North America*, FUELFIX (Sep. 29, 2013), <http://fuelfix.com/blog/2013/09/29/oil-producers-slow-spending-in-north-america/>.

4. Interview with Ryan Hunsaker, Associate at Vinson & Elkins LLP (Nov. 4, 2013).

5. James McKellar, *Oil and Gas Financing: “How it Works,”* 32nd Annual Ernest E. Smith Oil, Gas, & Mineral Law Institute, in Hous., Tex. (Mar. 31, 2006), at 6 (“Reserve-based bank lending is said to have begun in the early 1930s when the Republic National Bank made a loan to East Texas Refining Company on its east Texas production after the Texas Railroad Commission proration requirements were put into place in that field.”); *Investment Process*, CORE CAPITAL, http://corecapital.com/investment_process.html (last visited Nov. 2, 2014) (“Reserve-based lending began in onshore Texas in the 1970s before spreading to off-shore, the North Sea and subsequently to other geographies as well as emerging markets.”).

6. See *Magnum Hunter Resources Announces Proposed New Credit Facilities and Refinancing of Existing Revolving Credit Facility*, DIGITAL JOURNAL (Oct. 6, 2014), <http://www.digitaljournal.com/pr/2235983> (Magnum Hunter Resources Corporation—an independent oil and gas company whose portfolio includes Marcellus/Utica Shales in West Virginia and Ohio, the Eagle Ford Shale in south Texas, and the Williston Basin/Bakken Shale in North Dakota and Saskatchewan, Canada—recently announced that it would refinance its existing revolving credit facility and obtain two new credit facilities, one of which is “expected to consist of a \$50 million senior secured first lien reserve-based revolving credit facility, maturing

been employed as frequently to finance exploration and production in international jurisdictions, particularly in emerging markets.⁷ This Article analyzes this state of play, arguing that despite limitations on RBL in emerging markets, RBL will likely continue to be used to finance upstream operations, both domestically and internationally, so long as small to midcap producers cannot access other, cheaper forms of financing.

Part II begins with an overview of the mechanics of domestic RBL, a discussion of some limitations inherent in the model, and a brief look at alternatives available to producers in tight credit markets. Part III then turns to RBL in international jurisdictions, beginning with North Sea producers that began employing the structure around the same time as their U.S. counterparts, and surveys two recent RBL transactions involving reserves in emerging markets. Part IV then discusses factors that may limit the growth of RBL in emerging markets, focusing on the challenges of creating security interests in the reserves outside the United States, deliverability constraints, and political risk. In conclusion, the Article makes predictions regarding the future of RBL in emerging markets. Recent transactions suggest RBL is likely to remain a mainstay for independent producers in international markets, and, especially where borrowers face deliverability constraints, in the context of larger project finance deals in which small to midsize companies play a supporting role to IOCs. Despite difficulties in creating and enforcing security interests in reserves in emerging markets, international RBL's focus on project economics as opposed to asset value should allow continued growth of this form of financing. Competition brought on by new forms of financing may in time weaken its competitive position, but only if these forms better address the deliverability and political risk limitations of today's RBL.

II. RBL IN DOMESTIC MARKETS

As noted, RBL in domestic and international jurisdictions evolved concurrently, but in different forms. Whereas the focus of domestic lenders has been on the value of the producing assets securing the loan, international lenders have looked to the future cash flows of projects,

four years after the closing date, and a \$340 million senior secured second lien term loan, maturing five years after the closing date"); *Dejour Energy Inc. Closes C\$3.5 Million Debt Facility*, OIL AND GAS FINANCE JOURNAL (June 20, 2013), <http://www.ogfj.com/articles/2013/06/dejour-energy-inc-closes-c-3-5-million-debt-facility.html> ("Dejour Energy Inc. . . . an independent oil and natural gas exploration and production company operating in North America's Piceance Basin and Peace River Arch regions, has closed a fixed-term, interest-only C\$3.5 million debt facility due December 2014 . . ."); *American Eagle Increasing Interests in Spyglass Area*, OIL AND GAS FINANCE JOURNAL (Aug. 21, 2013), <http://www.ogfj.com/articles/2013/08/american-eagle-increasing-interests-in-spyglass-area.html>.

7. Interview with Jay Kelley, Jay D. Kelley, PC (Oct. 29, 2013).

often with large undeveloped asset components, to size loans to producers.⁸ This distinction can be traced in part to the differences between the offshore, largely undeveloped North Sea fields where international producers first employed RBL, and the Texas fields, which have a longer history of production in the United States, where RBL originated.⁹

A. *The Traditional Model*

Fundamentally, RBL is an asset-backed loan, much like a mortgage on a home. As such, companies cannot employ RBL until they have reserves to borrow against, making RBL ill-suited for funding pure exploration activities. If a company lacks the balance sheet to finance exploration expenditures internally, as will likely be the case for small to midcap E&P companies, then the company may have to rely on equity contributions, or analogous arrangements like farmouts or drilling funds, for initial exploration funding.¹⁰ RBL under the domestic model becomes feasible only once a company has achieved exploration success and booked reserves.

The traditional reserve-based loan consists of a bank loan, a borrowing base, and collateral.¹¹ Although the bank loan may take on various forms, the parties typically negotiate a revolving facility that allows the borrower to withdraw funds up to a specified amount, repay the funds

8. Jason Fox, Dewey Gonsoulin & Kevin Price, *Reserve Based Finance: A Tale of Two Markets—Part 1*, OIL & GAS FINANCIAL JOURNAL (Jan. 1, 2014) [hereinafter Fox, Gonsoulin & Price, *Part 1*], <http://www.ogfj.com/articles/print/volume-11/issue-1/features/reserve-based-finance.html> (“Despite the fact that a number of market participants (in particular the global banks) have historically been active in both markets, these two markets have nonetheless travelled separate and different paths, and the resulting financing techniques and structures that have evolved are different.”).

9. Jason Fox, Dewey Gonsoulin & Kevin Price, *Reserve Based Finance: A Tale of Two Markets—Part 2*, OIL & GAS FINANCIAL JOURNAL (Feb. 1, 2014) [hereinafter Fox, Gonsoulin & Price, *Part 2*], <http://www.ogfj.com/articles/print/volume-11/issue-2/features/reserve-based-finance.html> (“In the US, the whole approach is very focused on collateral cover (i.e. are there sufficient reserves to see that, on enforcement, banks will get repaid by sale of the assets or by a refinancing led by a financial institution offering a debt product that is further down the balance sheet?). In the international market the approach is more focused on monitoring actual business plan cash flows (i.e. will cash flows be sufficient to see a stepped reduction to full repayment of the facility by the Final Maturity Date?).”).

10. John T. Bradford & Jennifer Mosley, *Damn The Torpedoes: Continuing to Finance U.S. Oil and Gas Operations in Tumultuous Times*, 55 ROCKY MTN. MIN. L. INST. 22-1, § 22.03 (2009). In a farmout, the farmor assigns the farmee the working interest through payout contingent on the farmee drilling the well to the farmor’s specifications, reserving only an overriding royalty interest (“ORRI”). *Id.* After payout, the farmee’s ORRI converts into a portion of the working interest, and the farmor’s working interest ratchets down. *Id.* In a drilling fund, the company organizes a Limited Partnership in which it serves as general partner and contributes its working interest to the fund, with other investors funding drilling costs as limited partners. *Id.* Typically, the company’s percentage interest in the limited partnership will be disproportionate to its contribution to the partnership in the form of the working interest. *Id.*

11. See Lynn P. Hendrix, *Reserve-Based Lending*, NO. 2 ROCKY MTN. MIN. L. INST. PAPER NO. 23B, 23B-2 (2013).

with project cash flows as they become available, and then withdraw again once the need for capital arises.¹² The revolving nature of the facility comports well with the cyclical capital needs of the upstream industry, in which an E&P company might drill one field with facility proceeds, repay a portion of the loan with revenues from the working interest, and then draw down the facility a second time to finance the development of another field.¹³ Interest on the loan may be LIBOR-based, with an option to convert to prime rate and upward sliding-scale adjustments as the amount withdrawn from the facility increases.¹⁴ Payments are non-amortized and thus do not include principal.¹⁵ In contrast to an international reserve-based loan, producers typically make a bullet repayment of the loan's principal at the maturity date.¹⁶ Most structures allow the borrower to roll over the availability of the facility to a new period, in which case the parallel interest period might also be rolled over.¹⁷ In cases where an investment company does not need to fund working capital to drill a well (as in the traditional model), but instead seeks to acquire a bundle of oil and gas properties to flip to a production company, a term loan or other form of financing may be more appropriate.¹⁸

The borrowing base determines the amount that may be withdrawn from the facility (in a loan for working capital) or the size of the term loan (in connection with acquisition of oil and gas properties). The lender determines the borrowing base by projecting cash flows from the reserves, *net of costs*, and discounting them to present value, generally at the 10% discount rate¹⁹ used by the U.S. Securities and Exchange Commission (the SEC) in valuing oil and gas properties.²⁰ Projections of future cash flows depend on the quality of the reserves borrowed against, which the lender evaluates based on an engineering reserve report.²¹ A third-party petroleum reservoir engineer prepares the report and delivers

12. *See id.* at 23B-1.

13. *See id.* at 23B-19. In other respects, RBL squeezes oil and gas producers when they need financing the most. *See infra* Part II.B.

14. Hendrix, *supra* note 11 at 23B-11 to -12.

15. *Id.* at 23B-12.

16. Fox, Gonsoulin & Price, *Part 1, supra* note 8.

17. Bradford & Mosley, *supra* note 10, at § 22.05.

18. Jeffrey S. Muñoz, *Financing of Oil and Gas Transactions*, 4 TEX. J. OIL GAS & ENERGY L. 223, 225 (2009).

19. McKellar, *supra* note 5, at 7.

20. 17 C.F.R. § 210.4-10 (2014) ("The present value of estimated future net revenues computed by applying current prices of oil and gas reserves (with consideration of price changes only to the extent provided by contractual arrangements) to estimated future production of proved oil and gas reserves as of the date of the latest balance sheet presented, less estimated future expenditures (based on current costs) to be incurred in developing and producing the proved reserves computed *using a discount factor of ten percent* and assuming continuation of existing economic conditions.") (emphasis added).

21. Muñoz, *supra* note 18, at 227.

it to the bank semi-annually, at which point the bank will determine or re-determine the borrowing base.²² In addition to the information provided in the reserve report, the lender, often in consultation with the engineer, will apply assumptions as to the future costs of production, oil prices, and in some cases, an internally calculated discount rate that differs from the SEC rate.²³ The bank may change these assumptions when it re-determines the borrowing base, resulting in significant fluctuations over time.²⁴

Reserves in the engineering reports may be classified as Proved Developed Producing (PDP), Proved Developed Nonproducing (PDNP), Proved Undeveloped (PUD), Probable, or Possible. Of these reserve categorizations, domestic lenders rarely include the last two in the computation of the borrowing base, and if they do, the lenders steeply discount such reserves.²⁵ Typically, lenders will give borrowers credit for the full discounted present value of PDP, 50–75% of PDNP, and 25–50% of PUD.²⁶ The lender likely will not want PUD reserves to make up too large a component of the borrowing base, and may apply an even lower multiplier to the present value of PUD reserves to achieve this ratio.²⁷ Having made a conservative estimate of the value of the reserves in the ground, the lender may then apply a cover ratio to determine the size of the facility, typically requiring the facility amount be covered 1.5 times by the present value of reserves.²⁸

Although the borrowing base may fluctuate in response to changes in value of the reserves, lenders generally impose a maximum credit amount that can be withdrawn from the facility, regardless of the extent of the appreciation of the borrowing base.²⁹ In cases in which a borrower may have withdrawn close to the borrowing base amount, and upon re-determination of the borrowing base the amount withdrawn exceeds the base, the borrower may correct the deficiency with a payment (of

22. *Id.*

23. Hendrix, *supra* note 11, at 23B-3 (“[T]he procedure can be simplistically described as a comparison of the characteristics of the wells or properties being evaluated with those characteristics of similarly existing wells and properties. Factors taken into consideration include production history, geographic location and proximity to other similar wells, the formation or zone that is producing, completion methods, costs of operation, product prices, transportation and processing costs.”).

24. The nature of the bank’s re-determination of the borrowing base and the “black box” nature of the process will be explored further in Part II.B of this article. *See infra* Part II.B.2.

25. Hendrix, *supra* note 11, at 23B-3.

26. Bradford & Mosley, *supra* note 10, at § 22.05.

27. Jason Fox, Dewey Gonsoulin & Kevin Price, *Reserve Based Finance: A Tale of Two Markets—Part 3*, OIL & GAS FINANCIAL JOURNAL (Mar. 13, 2014) [hereinafter Fox, Gonsoulin & Price, *Part 3*], <http://www.ogfj.com/articles/print/volume-11/issue-3/features/energy-banking-expertise-relationships/reserve-based-finance.html>.

28. *Id.*

29. Hendrix, *supra* note 11, at 23B-7 to -8.

principal) or by contributing additional reserves to the base.³⁰ As the borrower sells off production, the value of the reserves making up the borrowing base will decline. A borrower wishing to maintain the borrowing base at a fixed size, therefore, will need to add reserves to the base more rapidly than they are being produced.³¹

Finally, domestic RBL transactions create a security interest in some portion of the oil and gas properties used to calculate the borrowing base, generally 80–100%.³² Because lenders haircut the value of reserves (other than PDP) in determining their contribution to the borrowing base, they effectively create a cushion between the value of the borrowing base and the value of the collateral.³³ The security interest created includes both the reserves granted by the oil and gas lease and personal property, such as the equipment necessary to produce the PDP, factored into the borrowing base.³⁴ Some lenders will insist that security in company shares and even project accounts be included as collateral.³⁵ This collateral cushion, together with the senior status of most reserve-based loans, makes this financing device extremely secure for the lender, explaining, in part, the asset-valuation focus of domestic RBL and low interest rates offered on most RBL loans.³⁶ Government regulation limits the amount of risk commercial banks may take in their investments. Thus the low-risk, low-reward profile of RBL fits well into commercial bank portfolios.³⁷ The clear transaction-cost reducing rules that allow for the perfection of security interests in the reserves in much of the United States and that help to explain the asset-valuation focus of U.S. RBL do not apply, however, in most international jurisdictions.³⁸

B. Limitations of the Traditional Model

Despite the strength of the RBL model, particularly from the secured lender's perspective, the structure is nonetheless subject to limitations that have prevented it from becoming the financing device of choice for

30. Bradford & Mosley, *supra* note 10, at § 22.05.

31. David Kaplan, *Unique Features in Oil and Gas Reserve-Based Lending Facilities Can Increase Companies' Default Risk*, STANDARD & POOR'S RATING SERVICES 7 (2012) [hereinafter Kaplan, *Unique Features*].

32. Bradford & Mosley, *supra* note 10, at § 22.05.

33. David Kaplan, *Despite Risks, We Expect Excellent Recovery on Most Reserve-Based Lending Facilities of E&P Companies*, STANDARD & POOR'S RATING SERVICES 2 (2013) [hereinafter Kaplan, *Despite Risks*].

34. Hendrix, *supra* note 11, at 23B-7.

35. Jason Fox, Dewey Gonsoulin & Kevin Price, *Reserve Based Finance: A Tale of Two Markets—Part 4*, OIL & GAS FINANCIAL JOURNAL (Apr. 11, 2014) [hereinafter Fox, Gonsoulin & Price, *Part 4*], <http://www.ogfj.com/articles/print/volume-11/issue-4/features/reserve-based-finance.html>.

36. Fox, Gonsoulin & Price, *Part 3*, *supra* note 27.

37. McKellar, *supra* note 5, at 6–7.

38. *See infra* Part IV.

certain borrowers, particularly major oil companies that dominate operations in emerging markets. Many of these companies do not grant liens because they have no need to; with healthy balance sheets and strong credit, these companies do not need to offer liens as credit enhancements and can access debt more cheaply elsewhere.³⁹ For such companies, particularly those domiciled in the United States that are investment-grade, unsecured, high-yield debt may be issued in the SEC-regulated capital markets at attractive rates.⁴⁰ In addition, for companies with proven track records, corporate loan facilities that look backwards to reported EBITDA (earnings before interest, taxes, depreciation, and amortization), as opposed to corporate loan facilities that look backwards to future cash flows, may be available.⁴¹ Small to midcap players, on the other hand,

start out with a strategic disadvantage in financing options. When still in their junior and small-cap state of growth, such companies commonly cannot raise unsecured debt directly from the bank because banks are generally unwilling to take exploration risks and instead look to collateral in the form of producing assets and proven reserves.⁴²

Consequently, RBL is most prevalent among small to midcap E&P companies. The requirement of a lien, coupled with commodity price volatility that could lead to a default, imposes significant risk on such borrowers, even taking into account hedging. In addition, such borrowers are subject to the lender's unilateral revisions of the borrowing base and could face jurisdiction-specific challenges to financing through RBL.

1. Commodity Price Volatility

RBL imposes all price risk on the borrower. To use an extreme case, in the event a borrower cannot renegotiate its lending agreement to accept a higher interest rate and defaults due to a prolonged period of

39. Kelley, *supra* note 7. One notable exception to this would be a situation in which an IOC forms a subsidiary company and capitalizes it with a contribution of reserves in exchange for equity. The IOC will be the sole equity holder of the subsidiary, and the subsidiary will seek additional (debt) financing in the form of reserve-based loans. See Fox, Gonsoulin & Price, *Part I, supra* note 8. Because the lender in such an arrangement does not have recourse to the IOC, the lender will insist on a lien on the reserves to compensate for this added risk. *Id.* In addition, companies occupying the space between midcaps and larger IOCs may employ some combination of RBL and high yield debt. *Id.* If high yield debt is issued subsequent to reserve-based loans, RBL lenders will require a later maturity date and may reduce the size of the borrowing base. *Id.*

40. Fox, Gonsoulin & Price, *Part I, supra* note 8.

41. *Id.*

42. Ruud Weijermars, *Credit Ratings and Cash-Flow Analysis of Oil & Gas Companies: Competitive Disadvantage in Financing Costs for Smaller Companies in Tight Capital Markets*, SOCIETY OF PETROLEUM ENGINEERS ECONOMICS AND MANAGEMENT 57 (2011).

lower-than-forecasted oil prices, the lender may foreclose on the borrower's reserves.⁴³ The borrower may mitigate price risk through hedging production, and in some cases, the lender will require this in the loan agreement.⁴⁴ When the borrower will be engaged in hedging transactions, the lender may add a provision to the loan agreement limiting the ability of the borrower to enter into hedges beyond some percentage of the of oil and gas to be produced.⁴⁵ By limiting hedged production to some 80% or 90% of estimated production, the lender ensures that a commodity price drop that leads to a decrease in production will not leave the borrower without revenues to settle hedges.⁴⁶

Most producers will only hedge out two or three years; however, the value of the borrowing base is calculated based on the entire life of the reserves.⁴⁷ Therefore, a prolonged period of depressed commodity prices could lead to a downward determination of the borrowing price that hedging would only partially mitigate, and a borrower might find itself overdrawn on its facility.⁴⁸ Further, hedging sales of production will not fully prevent reductions in the borrowing base because such hedging fails to address increased costs of production (recall that the borrowing base looks to cash flows of proceeds, *net of costs*) or production delays that would reduce the discounted present value of reserves.⁴⁹ Because prices may, and often do, fall prior to costs of production (if the latter fall at all), a borrower could easily find itself in a situation in which the size of the borrowing base has decreased disproportionately to the fall in commodity prices, again leaving the borrower overdrawn.⁵⁰ Finally, hedging does little in a situation in which the lender re-evaluates the borrower's reserves and determines a write-down to be appropriate.⁵¹

43. See Fox, Gonsoulin & Price, *Part 4, supra* note 35 (explaining that "the occurrence of insolvency or receivership can trigger termination rights so there is the risk that at the very point lenders wish to enforce security the main asset itself could disappear (because the lease or license can be terminated by the grantor being, usually, the host government)").

44. Hunsaker, *supra* note 4.

45. *Id.*

46. Fox, Gonsoulin & Price, *Part 3, supra* note 27.

47. Kaplan, *Despite Risks, supra* note 33, at 9. Hedging may also have the effect of lengthening periods of depressed commodity prices, as hedged producers concerned with stock price, maintaining leases, and retaining qualified employees may not scale back production as rapidly or to the same extent as un-hedged producers. *Id.* at 7. Consequently, a supply glut will persist, and prices will remain depressed. *Id.*

48. *Id.* at 9.

49. *Id.*

50. Kaplan, *Unique Features, supra* note 31, at 5.

51. Kaplan, *Despite Risks, supra* note 33, at 9.

2. Lender Revision of the Borrowing Base

Additionally, the computation of the borrowing base includes a number of assumptions, which, depending on the loan agreement, may be unilaterally revised by the lender. Typically, a lending syndicate designates a bank as an administrative agent that in turn proposes a borrowing base as calculated by internal models.⁵² The members of the syndicate also calculate the borrowing base independently, and will vote to approve the agent's proposed borrowing base.⁵³ If no consensus is reached, the highest borrowing base acceptable to all syndicate members will be chosen.⁵⁴ From the lender's perspective, the abovementioned risks borne by the borrower also provide ample pretext for the lender to revise the borrowing base in response to price volatility.⁵⁵ In addition, the fact that lenders will rarely share the borrowing base calculation methodology with borrowers and have unilateral discretion to set assumptions makes predicting changes to the borrowing base exceedingly difficult for the borrower.⁵⁶ These risks from the borrower's perspective have led some commentators to characterize the borrowing base calculation as a "black box."⁵⁷ A borrower might try to ensure the lender uses a borrowing base calculation employed in a comparable transaction reflecting the "market rate" for such loans, or incorporate language in the lending agreement requiring the borrowing base be determined consistent with "customary criteria"; but where the borrower has only limited bargaining power vis-a-vis the lender, lender concessions may be limited.⁵⁸ The strongest protection for borrowers may be a competitive market for lenders: "[t]he borrower . . . is also protected from the arbitrary nature of the process by the fact that competitive pressures will often force lenders to be reasonable."⁵⁹

Despite RBL's unique characteristics that make it well-suited to financing significant upfront expenditures, in times of volatility it also tends to let borrowers down. Although companies generally need more working capital when production cash flows decline as a result of lower commodity prices, a re-determination of the borrowing base in such an environment will reduce the amount of working capital available, not increase it.⁶⁰ A lender may exacerbate the situation by applying even more conservative estimates to reserve value if it determines a borrower

52. Fox, Gonsoulin & Price, *Part 2, supra* note 9.

53. *Id.*

54. *Id.*

55. *Id.*

56. *Id.*

57. Kaplan, *Unique Features, supra* note 31, at 9.

58. *Id.* See Fox, Gonsoulin & Price, *Part 2, supra* note 9.

59. Fox, Gonsoulin & Price, *Part 3, supra* note 27.

60. Kaplan, *Unique Features, supra* note 31, at 4.

to be in financial distress.⁶¹ For these reasons, Standard and Poor's has criticized RBL facilities as "a weaker form of liquidity."⁶² This limitation on RBL may be amplified where banks face pressure from regulators to meet capital adequacy requirements and respond to such pressure by reducing RBL exposure.⁶³

3. Complications in Tribal and Federal Lands

In addition to the foregoing limitations on RBL, the location of borrowing base reserves may impose unique challenges. Most of these challenges could be characterized as constraints on the lender, but to the extent they dissuade lenders from entering into reserve-based loans, these challenges impact borrowers as well. In areas of the United States subject to state law, clear recording and foreclosure laws exist, giving a lender assurance that he has perfected a lien on reserves, and that, in the event of default, he can realize the value of those reserves in a foreclosure proceeding. "Lenders . . . are not accustomed to discounting reserves to account for the potential risk that they might not be able to realize upon the collateral."⁶⁴ Under federal law, Indian tribes have broad power to make their own laws, and state law may or may not apply to the reservation.⁶⁵ Rather, in determining whether state law applies, the courts engage in a "particularized inquiry into the nature of the state, federal and tribal interests at stake,"⁶⁶ weighing the "tradition of Indian sovereignty"⁶⁷ granted by the constitution against "the exercise of state authority"⁶⁸ to determine whether the latter has been preempted. Unfortunately for lenders, because no "regulations or cases . . . have squarely considered the applicability of state recording and foreclosure

61. *Id.*

62. *Id.* at 9.

63. *Id.* at 7 ("Even now, we believe European banks are looking for ways to improve their capital ratios to meet the requirements of Basel III. In February, for instance, in an effort to reduce its balance sheet and improve its capital ratios, France-based BNP Paribas agreed to sell \$9.5 billion in loans made to North America-based oil and gas companies to Wells Fargo & Co., according to company reports."). Although an examination of these regulatory frameworks is beyond the scope of this article, to the extent that one jurisdiction's regulatory framework is more oppressive than another's, the borrower may face additional risk of an adverse borrowing base revision. Nothing in this author's research suggests that the regulatory frameworks of the host governments in which the borrowing base assets are located otherwise impose additional costs on the calculation of the borrowing base. The terms of the borrowing base are governed by a negotiated agreement between the lender and the borrower, with the former bearing reputational risk that arbitrary revisions may limit its ability to enter into future reserve-based loans.

64. Lynn. P. Hendrix & Philip R. Clark, *Perfecting and Enforcing Liens and Other Impediments to Lending in Indian Country*, NO. 2 ROCKY MTN. MIN. L. INST. PAPER NO. 4, 4-2 (2011).

65. *Id.*

66. *Id.* at 4-9 (internal quotation marks omitted).

67. *Id.* at 4-10 (internal quotation marks omitted).

68. *Id.* (internal quotation marks omitted).

laws to mortgages of such leasehold interests, the applicability of such laws must depend on the uncertainty and complexity of the . . . ‘particularized inquiry.’”⁶⁹ Such a particularized inquiry will vary from tribe to tribe and state to state, and hardly provides lenders with the predictability they require in collateral for RBL.⁷⁰ Even if a lender determines the applicable recording laws, jurisdictional issues once foreclosure proceedings commence could cause substantial delays and possibly leave a lender without redress if both state and tribal courts decide they lack jurisdiction.⁷¹ Given the asset-focused nature of U.S. RBL, the complexity of this recording and foreclosure process, particularly where a borrowing case consists of reserves on and off tribal lands, is a disincentive to lenders.⁷²

Outside of recording and foreclosure rules, additional obstacles complicate RBL in tribal lands. The creation of the lien may require approval by the tribe, as might the assignment of the leases during foreclosure.⁷³ In both cases, tribal governments may demand a “sweetener” before they consent.⁷⁴ Finally, tribes may have a right of first refusal on reserves in a foreclosure proceeding, potentially reducing the proceeds a lender might expect from a sale by turning away other potential bidders.⁷⁵ This lack of certainty in tribal lands might lead a lender to steeply discount the value of the reserves in the borrowing base or not make a loan at all, and therefore represents a unique obstacle to domestic RBL.

Offshore and other federal lands may also impose unique complications in collateralizing RBL. The complexities of creating a security interest on federal lands mirror those on tribal lands. First, no procedure exists for filing a mortgage with the Department of the Interior (DOI), the federal agency that oversees public lands.⁷⁶ Commentators recommend recording the mortgage at the office of the applicable division of the DOI in the state in which the reserves are located, but caution that some offices may not even accept the filing, and even if the office does accept the filing, the filing may not have any legal effect.⁷⁷

69. *Id.*

70. *Id.* at 4-13.

71. *Id.* at 4-21 to -23.

72. *Id.*

73. *Id.* at 4-24 to -26.

74. Hunsaker, *supra* note 4.

75. Hendrix & Clark, *supra* note 64, at 4-25.

76. Terry I. Cross & Jason T. Barnes, *Oil and Gas Liens & Foreclosures—A Multi-State Perspective*, 51 OKLA. L. REV. 175, 186 (1998).

77. *Id.*; Gregory J. Nibert, *Administration of Federal Oil and Gas Leases in New Mexico* 9, <http://www.landman.org/docs/white-papers/greg-nibert.pdf> (“The creation, transfer, or perfection of liens or security interests in federal oil and gas leases is not specifically addressed in the [federal] regulations. There appears to be some inconsistency among the various BLM state offices whether mortgages and security instruments will be accepted for filing and, if accepted,

Consequently, a borrower should also comply with the applicable state recording rules and file in the appropriate county.⁷⁸ Because the attractiveness of U.S. RBL from a lender perspective lies in the ability of lenders to foreclose on collateral in the event of a default, transaction costs associated with assigning this collateral make lenders less likely to engage in RBL.

C. Alternatives to RBL

In a low-oil-price environment akin to that which prevailed in the wake of the 2008–2009 financial crisis, banks may be unwilling to extend credit in the form of RBL, forcing would-be borrowers to seek alternative methods of financing their transactions.⁷⁹ As the proliferation of alternative financing forms has been widely discussed,⁸⁰ this Article focuses primarily on forms likely to be employed by the same borrowers who, given more liquid credit markets, might seek out RBL. Financing devices utilized by such borrowers include (1) production payments, both volumetric and dollar denominated; (2) private equity funding; and (3) mezzanine finance arrangements.

1. Volumetric Production Payment

The volumetric production payment (VPP) offers the borrower the opportunity to sell a fixed volume of future production from an oil and gas lease in exchange for an upfront payment.⁸¹ Because the VPP will deliver a fixed quantity of hydrocarbons per day over a *fixed time period*, the courts characterize the payment as a *limited term*, overriding royalty interest (ORRI).⁸² The VPP shifts price risk that would normally be

whether such instruments will become part of the official or unofficial records. It is suggested that the mortgagee and/or secured party make an effort to file such mortgage or security instrument in the appropriate BLM office . . .”).

78. Cross & Barnes, *supra* note 76, at 186.

79. Compare McKellar, *supra* note 5, at 5 (“[D]emand for financing has not kept pace with supply. Many of the active borrowers of only a few years ago are not competing for the available capital . . .”), with Muñoz, *supra* note 18, at 225 (“The combination of oil and gas prices recent precipitous fall and the general unavailability of credit is causing oil and gas producers to have the same difficult time finding sources of capital for their ongoing business needs as other non-oil and gas businesses. The oil and gas industry is particularly hard-pressed today given the large amounts of capital that are required to operate an oil and gas company along with the long time gap between investment of capital and seeing returns from such investments. Commercial banks that were, until recently, structuring loans where they would give value to a company’s probable and possible reserves, are starting to back away from making loans to any oil and gas company . . .”).

80. See, e.g., Bradford & Mosley, *supra* note 10; McKellar, *supra* note 5; Muñoz, *supra* note 18.

81. See John Bradford & Morgan Holtman, *Volumetric Production Payments in Property Transactions: Tax Rules and Potential Benefits*, OIL & GAS FINANCIAL JOURNAL (Sept. 1, 2004), <http://www.ogfj.com/articles/print/volume-1/issue-3/features/volumetric-production-payments-in-property-transactions-tax-rules-and-potential-benefits.html>.

82. Muñoz, *supra* note 18, at 228–29.

placed on the borrower in the context of RBL to the lender, who receives hydrocarbons in-kind.⁸³ The payment also transfers reserve risk to the lender, who is guaranteed a fixed quantity only out of the particular oil and gas leases burdened by the production payment.⁸⁴ To mitigate price and reserve risk, the lender may engage in hedging transactions while sizing the VPP to capture only 40–50% of the working interest’s projected production.⁸⁵ Thus, a temporary shortfall in production will be unlikely to impact the overall volume delivered, at least so long as the borrower retains enough of the working interest to incentivize continued production at the projected volumes. A lender might also size the payment to terminate in advance of the decline of the well so that production shortfalls earlier on in the payment may be made up for in the payment “tail.”⁸⁶ To secure the payment, the VPP buyer (lender) may demand a lien on the VPP seller’s (borrower’s) working interest burdened by the VPP.⁸⁷ Because the VPP—as an ORRI—is classified as real property, it will be excluded from the bankruptcy estate, allowing the lender to collect production even after the borrower files for bankruptcy.⁸⁸

The dollar-denominated production payment operates in the same manner as the VPP but imposes price risk on the seller, who must guarantee to deliver production equal to a specified dollar amount at each payment period.⁸⁹ Prior to the advent of derivatives markets, VPP owners could not hedge commodity price exposure and consequently demanded higher rates, making them more expensive for borrowers than dollar-denominated payments.⁹⁰ Sophisticated derivative markets have largely closed this gap, as any additional risk imposed by a volumetric and opposed to dollar-denominated production payment can be made up for by entering into swaps and other hedging agreements.⁹¹ In calculating the size of the payment, a lender will use a lower cost of capital when the borrower offers a more diversified reserve base from which the payment will be drawn.⁹²

83. *Id.* at 229.

84. *Id.*

85. *Id.* at 230.

86. McKellar, *supra* note 5, at 16.

87. Muñoz, *supra* note 18, at 233–34.

88. Fox, Gonsoulin & Price, *Part 2, supra* note 9.

89. Bradford & Holtman, *supra* note 81.

90. *Id.*

91. *Id.* In the broader commodities context, these payments may be thought of as a form of “prepayment” on production to be delivered pursuant to a schedule. Interview with Bill Hussey, Managing Director, Newstead Group International, in Hous., Tex. (Oct. 31, 2013).

92. Bradford & Mosley, *supra* note 10, at § 22.05.

2. Private Equity Funding

Private equity funding ranks among the most expensive forms of financing for borrowers. Private equity providers such as pensions, insurance companies, and other institutional investors deploy capital in the upstream business through both funds with a broad investment mandate and funds dedicated to exploiting opportunities in oil and gas.⁹³ These funds rely on experienced management teams with proven track records that demonstrate the team's ability to create value in the face of commodity price and reserve risk.⁹⁴ Because of this emphasis on the role of management in creating value for fund investors, aligning management's interest with that of the fund's investors requires selecting a suitable legal entity to accomplish this purpose.⁹⁵ For example, if the investment is structured as a corporation, one way of aligning management's interest with that of the fund's investors might be to issue preferred stock to the fund's investors and common stock to management.⁹⁶ The preferred stock will have an annual dividend and liquidation preference, while the common stock will lack these characteristics and thus be issued at a lower price, but will share in the upside once investor internal rate of return has been achieved.⁹⁷ Though private equity funds are not required by law to report their fund performance, the above-market returns sought by limited partners suggest that fund capital comes only at a significant price.

3. Mezzanine Financing

Mezzanine financing pairs a credit facility with an equity kicker to compensate the lender for bearing a greater degree of risk than in a conventional RBL arrangement.⁹⁸ These financings have a high-reward, high-risk profile that makes them unsuitable for highly regulated commercial banks.⁹⁹ Unlike traditional reserve-based loans, mezzanine loans cannot be fully repaid from PDP cash flows, and lenders will take into account PDNP, PUD, Probable, and in limited cases even Possible reserves, in calculating the loan amount.¹⁰⁰ Banks may require producers to agree to a development plan to ensure that the producer undertakes development of the reserves factored into the calculation of the loan

93. Jeffery A. Zlotky, *Equity Financings—Selected Issues in Structuring and Negotiating Private Equity Investments in Oil and Gas Companies*, NO. 3 ROCKY MTN. MIN. L. INST. PAPER No. 11, 1.01 (2006).

94. *Id.* at 1.02.

95. *Id.* at 1.03.

96. *Id.*

97. *Id.*

98. Muñoz, *supra* note 18, at 242.

99. McKellar, *supra* note 5, at 11.

100. *Id.*

amount.¹⁰¹ Where such reserves make up a significant portion of the borrower's total, their inclusion could double the amount the borrower would be able to withdraw under a more traditional RBL facility.¹⁰² The borrower may then use proceeds to refinance an existing loan in order to give the lender first lien on the borrower's reserves or other assets.¹⁰³ Mezzanine loans typically carry a higher advance rate that drops down once the borrower brings non-producing reserves online.¹⁰⁴ Some reserve-based loans will include a mezzanine component that will be incorporated into the RBL facility once PUD reserves have been developed or PDNP reserves resume production.¹⁰⁵

The return component of a mezzanine loan comes from the equity piece, generally in the form of common stock, preferred stock, warrants,¹⁰⁶ participation rights, or overriding royalty interests.¹⁰⁷ A warrant is essentially an option to purchase common stock at a specific price, exercisable by the lender.¹⁰⁸ Warrants differ from traditional options in that they require the issuance of additional shares by the company and dilute outstanding shares, as opposed to requiring the company to repurchase outstanding shares for distribution.¹⁰⁹ Participation rights, in contrast, do not provide the lender with actual equity interest but instead grant a share of the profits in the form of a distribution.¹¹⁰ An overriding royalty interest is a non-expense bearing interest carved out of the working interest; these tend to be more liquid than the equity kicker components described above.¹¹¹ Where a borrower cannot access traditional RBL due to lack of PDP or illiquid credit markets, VPPs, private equity, and mezzanine structures with equity kickers offer alternatives for financing transactions.

III. RBL IN INTERNATIONAL MARKETS

RBL first took root internationally in the North Sea before spreading to other international developed and emerging markets. The first generation of North Sea loans differed from traditional American RBL in fundamental respects that would come to characterize RBL in other international jurisdictions. An examination of two recent RBL

101. Fox, Gonsoulin & Price, *Part 2, supra* note 9.

102. Muñoz, *supra* note 18, at 241.

103. *Id.*

104. *Id.*

105. McKellar, *supra* note 5, at 11.

106. *Id.* at 12.

107. Muñoz, *supra* note 18, at 241–42.

108. *Id.*

109. WILLIAM A. KLEIN, JOHN C. COFFEE & FRANK PARTNOY, BUSINESS ORGANIZATIONS AND FINANCE: LEGAL AND ECONOMIC PRINCIPLES 251 (11th ed. 2010).

110. Muñoz, *supra* note 18, at 246.

111. *Id.* at 248.

transactions, one by Petroceltic International plc (Petroceltic) and one by Tullow Oil plc (Tullow), makes this point clear. The example of Tullow, in particular, represents one application of RBL to emerging markets and illustrates both the workability of RBL in such markets as well as the limitations of international reserve-based loans. Though use of such loans has been growing, such reserve-based loans are not as prevalent internationally as they are in the United States.

A. North Sea Reserve-Based Loans

The market for North Sea RBL emerged in the 1970s, around the same time as the advent of RBL in Texas.¹¹² Though initially limited to well-capitalized international borrowers to which such loans were full recourse in the earliest stages of production, lenders eventually came to extend non-recourse reserve-based loans to smaller borrowers.¹¹³ These early reserve-based loans resembled traditional single-field project financings because (1) producers employed them in largely undeveloped fields where even if lenders could legally create a security interest in the reserves, the valuation of these assets would be speculative at best, and (2) the lenders sized their commitments based on project cash flows, rather than the value of collateral.¹¹⁴ The first phase of North Sea reserve-based loans “benefited from the provision of a guarantee put forth by a large corporate sponsor until the field had passed a technical ‘completion’ test, at which point the loan would become limited in recourse to the project field, which by that time would be producing.”¹¹⁵ In addition, because many North Sea reserve-based loans contained large undeveloped components, lenders developed a “reserve tail” concept: sizing the borrowing base so that producers would repay loans before the end of the project cycle, typically at a point when 25% of the total reserves had yet to be produced.¹¹⁶ By setting the loan’s maturity date just prior to the reserve tail, lenders created a cushion against commodity price fluctuations and ensured that producers would repay loans before plugging and abandonment became an issue.¹¹⁷

112. See Fox, Gonsoulin & Price, *Part 1*, *supra* note 8 (“The International RBF market has been a thriving and expanding one for almost 40 years. Originating in the UK North Sea it has expanded over subsequent decades across the globe but its center today, in terms of the banking teams active in it, is still predominantly London. The North American RBF market, the world’s largest, predates the International RBF market. The bulk of the transactions that comprise this market involve US assets and are originated in, and serviced by, Houston-based banking teams.”).

113. Kevin Price, *Reserved-Based Lending Markets: From Projects to Borrowing Bases*, OIL & GAS FINANCIAL JOURNAL (Aug. 1, 2006), <http://www.ogfj.com/articles/print/volume-3/issue-8/features/reserve-based-lending-markets-from-projects-to-borrowing-bases.html>.

114. Fox, Gonsoulin & Price, *Part 1*, *supra* note 8.

115. Price, *supra* note 113.

116. Fox, Gonsoulin & Price, *Part 2*, *supra* note 9.

117. *Id.*

These loans differed from American reserve-based loans in several fundamental ways. First, they were not secured with an interest in the reserves.¹¹⁸ Though the United States permits private ownership of reserves, in most countries the sovereign holds title to the minerals in place, which only come to be “owned” by the company once they have been extracted.¹¹⁹ As these loans, subsequent to the completion test, became limited in recourse to the project, they resembled a more pure project finance model.¹²⁰

Second, lenders sized borrowing bases more liberally, taking into account PUD and probable reserves in addition to PDP and PDNP reserves.¹²¹ For single field development, oftentimes the borrowing base would include no PDP whatsoever.¹²² Though the completion test allowed lenders to limit their exposure by ensuring reserves would be sufficient to cover their loans, it became less significant in the second phase of North Sea RBL when lenders began extending loans to smaller borrowers. Without a large sponsor to back the loans, these lenders took on a significant degree of risk from the outset of the loan, with the completion test serving only to prevent additional exposure.¹²³ “In many ways these transactions are a purer form of project finance because the fundamentals of the project are particularly important with the credit not having the mitigation of an investment grade guarantee prior to project completion”¹²⁴ Unlike in U.S. RBL, government-approved plans of development gave lenders a measure of assurance that the borrower would in fact take steps to develop undeveloped components of borrowing bases.¹²⁵

Third, international RBL lenders superimposed an amortization schedule on top of the borrowing base, requiring periodic payments up to the maturity date.¹²⁶ These schedules, to the extent they discourage prepayment, eliminated the refinancing risk that lenders take in domestic reserve-based loans where producers make a bullet repayment at maturity.¹²⁷

118. Price, *supra* note 113.

119. *Id.*

120. *Id.*

121. *Id.*

122. *Id.* (“Governments in North Sea countries like the UK and Norway approve the smallest detail of development plans, and all offshore facilities and developments are sized to accommodate mid-case (P50) outcomes (roughly equivalent to proved and probable reserves). This degree of regulation . . . has helped in making the North Sea reserve-based lending market the most aggressive in the world.”).

123. *Id.*

124. *Id.*

125. Fox, Gonsoulin & Price, *Part 2, supra* note 9.

126. Fox, Gonsoulin & Price, *Part 1, supra* note 8.

127. *Id.*

Finally, the borrowing base calculation for international RBL is more transparent than the comparable determination for domestic RBL. In international RBL, a technical bank will generate a single model for all lenders in the syndicate.¹²⁸ The syndicate will agree to act “reasonably” in selecting assumptions for the model, which resembles a business plan forecasting cash flows from undeveloped assets more so than a collateral valuation exercise.¹²⁹ To calculate the borrowing base, the lenders project discounted cash flows and apply the lower of a loan life cover ratio (which excludes reserve tail) or project life cover ratio (which includes reserve tail).¹³⁰ By requiring the borrowing base be calculated based on the lower of these two ratios, international RBL lenders account for the possibility that project life NPV may be less than loan life NPV where abandonment costs in the later stages of the project are substantial.¹³¹

The persistence of RBL with small to midsize companies in the North Sea today¹³² is a testament to the success of this form of financing in this area over the past four decades (during which, relatively few defaults occurred).¹³³

B. Case Studies: Petroceltic and Tullow

Outside of the North Sea, RBL has been employed in a recent transaction involving Petroceltic, a UK-based E&P company traded on the London Stock exchange, with operations in North Africa, the Mediterranean, and the Black Sea.¹³⁴ On April 15, 2013, Petroceltic announced the signing of a \$500 million loan backed by a syndicate of

128. Fox, Gonsoulin & Price, *Part 2, supra* note 9.

129. *Id.* (“Facility documentation will describe in detail the process for agreeing assumptions that are put into the model . . . Borrowers will typically seek to reduce the scope for lenders to have absolute discretion in setting disputed assumptions by insisting that the loan documentation require the Technical Bank and Lenders to act ‘reasonably’ in assumption setting Sometimes borrowers are successful in getting banks to agree that assumptions used will be ‘consistent with’ or ‘no less favorable’ tha[n] the assumptions used by the Technical Bank/Lenders in other similar facilities (typically though this relates to economic assumptions such as hydrocarbon prices or discount rates as reserves will vary with the field specific context).”).

130. Fox, Gonsoulin & Price, *Part 1, supra* note 8.

131. *Id.*

132. *Signing of US\$155 Million Reserves Based Loan Facility*, XCITE ENERGY LIMITED (JUNE 22, 2012), <http://www.xcite-energy.com/investors/regulatory-news/rns-news/11241536> (“Xcite Energy is pleased to announce that it has signed a US\$155 million secured reserves based loan facility agreement (the “Facility”) for the Bentley field with a leading group of lending institutions. The Facility, with a term of five years, will be used to provide a substantial part of the funding required for the Phase 1B development of the Bentley heavy oil field in the UK North Sea.”).

133. Price, *supra* note 113 (“Structures and products are tried and tested over many years in different markets, and default history is good for the sector as a whole, loss history in event of default is closer related to underlying reserve risk than to any other factor.”).

134. *Signature of \$500 million Financing Facility*, PETROCELTIC (April 16, 2013), <http://www.petroceltic.com/investor-centre/press-releases/pr-2013/2013-04-15.aspx>.

banks including the International Finance Corporation (IFC), HSBC, Nedbank, and Standard Chartered Bank.¹³⁵ The loan includes a \$375 million RBL tranche in the form of a revolving credit facility and a \$125 million mezzanine tranche.¹³⁶ Whereas the borrowing base in the RBL tranche is “based on the value of future cash flows from the Company’s producing assets in Bulgaria and Egypt,” the availability of the mezzanine tranche “is based on the satisfaction of specific and objective milestones related to the development of [Petroceltic’s Algerian field],” specifically, “the official booking of Proven and Probable reserves.”¹³⁷ The contingent nature of the mezzanine tranche resembles the contingency associated with the completion test discussed in conjunction with the early North Sea reserve-based loans.¹³⁸

On November 7, 2012, Tullow, another UK-based E&P company traded on the London Stock Exchange, announced the refinancing of a \$3.5 billion RBL facility drawn from a syndicate of 27 international lenders, including the IFC, to be used primarily to fund major field development in Ghana.¹³⁹ The borrowing base consisted of the company’s entire asset portfolio, including reserves in the Congo, Ivory Coast, Equatorial Guinea, Gabon, Ghana, and Mauritania.¹⁴⁰ The inclusion of reserves located in Sub-Saharan Africa is notable because “[m]arket standards between . . . the North Sea and a number of major jurisdictions in sub-Saharan Africa vary considerably The degree of variation is a factor of . . . the extent of development of a legal (and in particular security) framework within that market”¹⁴¹ Like the UK, most sub-Saharan African jurisdictions do not permit the collateralization of reserves.¹⁴² The entrance of smaller borrowers, like Tullow, as these markets mature has followed the pattern of development in the North Sea, and similarly poses unique challenges for financing. Though reserve-based loans like Petroceltic’s and Tullow’s have been successful in other

135. *Id.*

136. *Id.*

137. *Id.*

138. *See supra* Part III.A.

139. Rinku Bhadoria & Thomas Coles, *A Comparative Analysis of Reserve Based Lending in Cameroon, Ghana, Nigeria and Uganda versus the UK—Structural Considerations and Challenges*, KING & WOOD MALLESONS, SJ BERWIN (Feb. 1, 2013), <http://www.sjberwin.com/insights/2013/02/01/a-comparative-analysis-of-reserve-based-lending-in-cameroon-ghana-nigeria-and-uganda-versus-the-uk>; *Tullow Secures US\$3.5 Billion Debt Refinancing*, TULLOW OIL PLC (Nov. 7, 2012), <http://www.tulloil.com/index.asp?pageid=137&category=&year=2012&month=&tags=&newsid=794>.

140. *See Sizing and Structuring Matter in Reserves-Based Oil and Gas*, INFRASTRUCTURE JOURNAL AND PROJECT FINANCE MAGAZINE (Dec. 17, 2012), <http://www.ijonline.com/pf-archive/article/3132144/sizing-and-structuring-matter-in-reserves-based-oil-and-gas>; TULLOW OIL PLC, 2012 ANNUAL REPORT AND ACCOUNTS 6–7 (2013), available at <http://www.tulloil.com/files/reports/ar2012/index.asp?pageid=139&topnav=reports&year=2006>.

141. Bhadoria & Coles, *supra* note 139.

142. *Id.*

jurisdictions as well, they are far less prevalent than American reserve-based loans.¹⁴³

IV. FACTORS LIMITING RBL IN EMERGING MARKETS

Despite RBL's role in domestic transactions, several factors have limited its use outside of the United States. First, as suggested above, most sovereigns do not permit the creation of a security interest in reserves. Though some small to midcap companies of the size that typically finance with RBL have adopted creative solutions to such limitations by creating security interests in other assets (and lenders have adapted by structuring their models around cash flows, instead of collateral), emerging markets remain dominated by the majors, and these companies do not give liens because they have the balance sheets to finance capital expenditures or, alternatively, can turn to public debt markets for financing. Second, deliverability constraints limit pure E&P opportunities in emerging markets. Often, such markets will lack the infrastructure to transport hydrocarbons to demand centers, necessitating projects of far greater scale than can be financed by RBL. Finally, operating in emerging markets frequently entails a significant degree of political risk that many small to midcap companies simply will not tolerate. Though political risks can be managed to a certain extent, mitigation strategies come only at significant expense.

A. Security Interests

Though security interests may not be as essential under the international model employed in emerging markets as in the domestic model given the international lender's focus on project economics, they remain at the heart of RBL, and obstacles to their creation represent a challenge to asset-backed lending in emerging markets. In jurisdictions that do not permit the collateralization of the reserves, lenders might instead demand the right to assign the license or production sharing agreement (PSA), or alternatively, demand the right to take over the borrower's shares. These could be accomplished either by creating a security interest in the borrower's license or PSA, assignable by the lender, or by a pledge of the borrower's shares, respectively.¹⁴⁴ A security interest in the license or PSA allowing its assignment in the event of a default presents several challenges. In most cases, the creation of a security interest and the ability of the lender to foreclose remain subject to the consent of the relevant agency in the host country, which may

143. Fox, Gonsoulin & Price, *Part 4, supra* note 35 (“The International RBL market is undoubtedly much smaller by absolute number of deals and number of participant banks . . .”).

144. Bhadoria & Coles, *supra* note 139.

require assurances that the lender possesses the necessary expertise to carry out the borrower's obligations under the license or PSA.¹⁴⁵ The U.K. represents one partial exception to this, where since February 2012, the Secretary of State has allowed the creation of a security interest in a company's license.¹⁴⁶ Though the law allows the creation of the interest, it still requires the Secretary's consent to actually *assign* the interest to another party.¹⁴⁷

Obstacles to such arrangements in Nigeria are more typical of emerging markets. In Nigeria, "[w]ithout the prior consent of the Minister [of Petroleum Resources], the holder of an oil prospecting licence or an oil mining lease shall not assign his licence or lease, or any right, power or interest therein or thereunder."¹⁴⁸ For such consent to be granted, the "[a]pplication for the assignment or takeover of an oil prospecting licence or oil mining lease (or of an interest in the same) shall be made to the Minister in writing and accompanied by the prescribed fees at the discretion of the Minister."¹⁴⁹ In addition to the difficulties of obtaining ministerial consent, the Nigerian stamp duty imposes additional transaction costs on borrowers. The Nigerian government requires payment of duties of up to 1.5% of the value of the security interest by the lender in order for the security interest to be valid.¹⁵⁰ If security documents are not stamped, the courts will refuse to enforce the security in a foreclosure proceeding unless the lender pays hefty penalties.¹⁵¹

As noted above, the share pledge represents another means of effecting the same arrangement. This pledge circumvents any assignment of the license or PSA by giving the lender control of the borrower's shares in the event of default, effectively allowing the lender to step into the shoes of the borrower.¹⁵² In Nigeria, however, the federal court has ruled such an arrangement constitutes an assignment or takeover of the license or PSA, in which case the statutory language in the preceding paragraph would attach and the lender would be required to seek ministerial consent.¹⁵³ As the court colorfully notes, "the grant of . . . [an]

145. *See id.*

146. Open Permission (Creation of Security Rights over Licenses), UNITED KINGDOM DEPARTMENT OF ENERGY & CLIMATE CHANGE (Feb. 6, 2012), *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/15148/openpermchg.pdf.

147. *Id.*

148. *Transfer of Controlling Interest in Companies Holding Oil and Gas Assets in Nigeria—Moni Pulo v. Brass Exploration*, GBENGA BIOBAKU & CO. (July 2012), <http://www.gbc-law.com/publications.html> (quoting the 1969 Petroleum Act, Cap. 350 LFN (Nigeria)).

149. *Id.*

150. Kevin Etim & Dipo Okuribido, *Nigeria: Lessons from Shell*, INTERNATIONAL FINANCIAL LAW REVIEW (Dec. 1, 2012), <http://www.iflr.com/Article/3127624/Nigeria-Lessons-from-Shell.html>.

151. *Id.*

152. *Transfer of Controlling Interests*, *supra* note 148.

153. *Id.*

oil mining lease . . . is strictly under the President and the Minister In the absence of such control, participation in [the petroleum industry would] be an all comers affair that [would] turn the petroleum industry into a motor park for touts to hold sway”¹⁵⁴ Where an interest in the license or PSA cannot be feasibly obtained, a lender might also seek a security interest in key contracts, such as offtake agreements.

Assignment of key contracts presents challenges similar to those posed by assigning an interest in the PSA or license. Transferring the contract might contravene a provision of the license or PSA in the same manner as the assignment of the license or PSA itself, or could require the consent of counterparties to the contract.¹⁵⁵ Another option might be for the borrower to create a security interest in an offshore “lockbox” account that receives project cash flows and cannot be accessed by the host government.¹⁵⁶ Sovereigns may have restrictions on the amount of project cash flows that can be deposited out of country, however, potentially limiting the size of any such account.¹⁵⁷ Finally, a lender might seek a guarantee from the credit-worthy affiliate of the borrower.¹⁵⁸ The guarantee would operate in the same manner as the pre-completion guarantee and would give the lender recourse to a well-capitalized sponsor, but hinges on the existence of a sponsor and its willingness to enter into such an arrangement.¹⁵⁹ With most of these alternatives, the lenders should remain prepared to deal with the vagaries of foreclosure proceedings in local courts.¹⁶⁰

From the lender’s perspective, none of these options may be as attractive as collateralizing the reserves, and all carry with them transaction costs parties do not incur when they engage in domestic RBL.¹⁶¹ In the eyes of the borrower, the cost of negotiating an interest that would be acceptable to the lender might be sufficient to render the project unviable. For the biggest players, at least, there are simply cheaper ways to access financing. Even when the borrower and the lender come to an agreement, the resulting security interest might be of dubious value: “a security package in an RBL transaction, particularly in [emerging markets], is widely considered a shield rather than a sword.”¹⁶²

154. *Id.* (quoting the opinion of the Federal High Court in Nigeria).

155. Bhadoria & Coles, *supra* note 139.

156. Hunsaker, *supra* note 4.

157. Bhadoria & Coles, *supra* note 139.

158. *Id.*

159. Kelley, *supra* note 7.

160. Bhadoria & Coles, *supra* note 139.

161. Fox, Gonsoulin & Price, *Part 4, supra* note 35 (“The value of Security in the US, for onshore fields at least, is possibly the best in the world as it is possible to own the oil reserves when still in the ground meaning that mortgages can be taken over fields and reserves. In most other jurisdictions around the globe the oil or gas is owned by the state . . .”).

162. Bhadoria & Coles, *supra* note 139.

Indeed, “[l]enders with experiences in these types of financings have learned to accept that liens on the project assets are more often important for their strategic negotiation value when things go wrong, rather than their realizable liquidation value upon default.”¹⁶³ Consequently, and in contrast to domestic RBL, international RBL lenders have focused more on avoiding projects with a risk of default than on the value of collateral that would be realized in such event. Even if parties to an international RBL settle on a security package, the ability to finance production means little if no infrastructure exists to deliver hydrocarbons to market.

B. Deliverability

In many emerging markets with production potential, infrastructure might not exist to transport oil and gas to demand centers. RBL is geared towards financing E&P, not massive infrastructure projects like pipelines and liquefaction plants. Tullow has encountered deliverability challenges with respect to its Uganda assets that illustrate this issue.¹⁶⁴ Because the company’s prospect in Uganda’s Lake Albert region is landlocked and local demand is inadequate to satisfy the company’s desired level of production, Tullow sought to negotiate an agreement with the government to construct an export pipeline to Lamu, Kenya on the East African coastline.¹⁶⁵ The Ugandan government, in turn, insisted on Tullow’s participation in the construction of a refinery to provide for regional demand.¹⁶⁶ These infrastructure projects, combined with development of the field, will require around \$12 billion in investment: a figure that may account for Tullow’s decision to partner with Total and CNOOC.¹⁶⁷

Negotiations took over a year to resolve, and the government at one point repudiated any involvement with the construction of the pipeline.¹⁶⁸ The dispute centered on where to find land for the pipeline, which the

163. SCOTT L. HOFFMAN, *THE LAW AND BUSINESS OF INTERNATIONAL PROJECT FINANCE: A RESOURCE FOR GOVERNMENTS, SPONSORS, LAWYERS, AND PROJECT PARTICIPANTS* 53 (3d ed. 2007); Fox, Gonsoulin & Price, *Part 4, supra* note 35 (“It is for this reason that RBF bankers in the international market place great emphasis on the probability of default and putting in place structures, controls and checks to avoid defaults and always to get early warning of it.”).

164. Jeff Mbanga, *Tullow Oil’s Kenya Problems Mirror Wider Regional Hiccup*, THE OBSERVER (Nov. 6, 2013), http://www.observer.ug/index.php?option=com_content&view=article&id=28421%3Atullow-oils-kenya-problems-mirror-wider-regional-hiccup&catid=79%3Abusinessstopstories&Itemid=68.

165. Nicholas Bariyo, *Uganda Hires US Firm Taylor-DeJongh to Advise on Oil Refinery*, CAPITAL (Mar. 1 2013), <http://english.capital.gr/News.asp?id=1741928>.

166. *Id.*

167. Selina Williams, *Tullow CEO Sees Uganda Oil Plan MOU Agreed in Next Few Weeks*, RIGZONE (May 8, 2013), http://www.rigzone.com/news/oil_gas/a/126347/Tullow_CEO_Sees_Uganda_Oil_Plan_MOU_Agreed_in_Next_Few_Weeks.

168. Mbanga, *supra* note 164.

government considered putting up at the outset of negotiations but then declined to provide in the face of the rising costs of compensating residents displaced by the construction of the refinery.¹⁶⁹ Once the government announced the refinery's proposed location in Kabaale, Ugandans flocked to the area to purchase land, fueling rampant speculation and high land prices.¹⁷⁰ As one Ugandan minister noted, Kabaale "is sparsely populated but even the few people there have become many. . . . A mud house in Kabaale has become more expensive than in Kampala [the capital of Uganda]" ¹⁷¹ Even if the government finds the political will to displace and compensate residents along the pipeline route, it has not presented an adequate source of funding to do so, leaving commentators in doubt as to the viability of the project.¹⁷²

Negotiations were finally resolved in February 2014, when Tullow agreed upon a Memorandum of Understanding with the Ugandan government providing for the construction of the pipeline.¹⁷³ Bids on the pipeline are expected by the end of August 2014,¹⁷⁴ with a final investment decision to come in the next few years.¹⁷⁵ The pipeline will be the longest heated pipeline in the world once completed;¹⁷⁶ however, its construction is years away, at best.

As Tullow's challenges in Uganda demonstrate, deliverability issues can preclude RBL in emerging markets. First, the sheer size of the projects (Tullow's pipeline alone could represent \$5 billion of the total \$12 billion in development costs)¹⁷⁷ could simply prove prohibitively expensive for smaller E&P companies without the assets to attract partners like Total and CNOOC. Second, assuming a company can finance the necessary infrastructure, deliverability constraints have the potential to adversely impact the borrowing base and leave the borrower in default. If Tullow has included its Uganda assets in the borrowing base for its \$3.5 billion RBL, delays in the project could push back projections for future cash flows, decreasing the borrowing base and reducing the facility size. For a borrower like Tullow that has likely drawn down

169. *Id.*

170. *Id.*

171. *Id.* (quoting Elly Karuhanga, Chairman of the Uganda Chamber of Mines and Petroleum).

172. *Id.*

173. Tullow Oil's (TUWLF) CEO Aidan Heavey on Q2 2014 Results - Earnings Call Transcript, SEEKING ALPHA (July 30, 2014) [hereinafter Heavey], available at <http://seekingalpha.com/article/2374795-tullow-oils-tuwlfc-ceo-aidan-heavey-on-q2-2014-results-earnings-call-transcript>.

174. TULLOW OIL PLC, 2014 HALF-YEARLY RESULTS (July 30, 2014), available at http://www.tulloil.com/files/pdf/results/2014_half_yearly_results.pdf.

175. Heavey, *supra* note 173.

176. *Oil & Gas Basin Opens in Kenya*, BAYSTREET (Aug. 7, 2014), <http://www.baystreet.ca/viewarticle.aspx?id=418817>.

177. *See id.*

significantly on its base to fuel rapidly expanding global operations, a significant downward re-determination could leave the company in default, forcing it to come up with the cash to close the gap. Although Tullow's partnership with the government, Total, and CNOOC may represent a potential project-finance-type model for small to midcap E&P companies to overcome deliverability constraints in emerging market projects, the investment required may still be too great or the borrowing base too dependent on the timely completion of such projects. Consequently, deliverability constraints represent one additional limitation on RBL in emerging markets.

C. Political Risk

Though political risk plays some role in the difficulties of creating security interests in emerging markets, it also has wider implications for RBL transactions. Political risk may be categorized as traditional, regulatory, and quasi-commercial.¹⁷⁸ Traditional risk encompasses threats such as expropriation, creeping expropriation, political violence, and war.¹⁷⁹ Regulatory risk differs in that it assumes the law will be followed but takes into account the risk that the sovereign will change it, making the regulatory environment more difficult for the borrower to operate in.¹⁸⁰ Quasi-commercial risk comprises the possibility that entities such as National Oil Companies (NOCs) may fail to perform obligations to the borrower.¹⁸¹ Other risks with political components include sovereigns' restrictions on the borrower's ability to expatriate funds in order to service debt held by foreign lenders.¹⁸²

As with alternatives to creating a security interest in the reserves, risk mitigation strategies abound. Studies have shown that projects in areas with significant political risk often include a development bank in the lending consortium.¹⁸³ The inclusion of a development bank acts as a sort of political umbrella. Not only do multilateral development banks such as the International Finance Corporation (IFC) "have high bargaining power because, as they finance many projects and also provide financial aid, they frequently interact with government,"¹⁸⁴ but also many of their

178. TIMOTHY IRWIN ET AL., *DEALING WITH PUBLIC RISK IN PRIVATE INFRASTRUCTURE* 11 (1997).

179. *Id.*

180. *Id.*

181. *Id.*

182. Hussey, *supra* note 91.

183. Christa Hainz & Stefanie Kleimeier, *Political Risk Development Banks, and the Choice of Recourse in Syndicated Lending* 6 (2011), available at https://www.ou.edu/dam/price/Finance/Oklahoma_conference/2011/Stefanie%20Kleimeier%20%20Political%20Risk,%20Development%20Banks%20...pdf.

184. *Id.* at 6 ("As the government knows about the negative effect such an intervention has on the loan (partially) granted by the development bank, it may recognize the negative effect the intervention has on its reputation at the development bank."). *Id.* at 8.

loan agreements contain cross-default provisions that impact other loans held by the host government.¹⁸⁵ Consequently, the “IFC is favorably regarded [by borrowers] as an entity whose participation in a project helps mobilize additional loan financing and equity investments.”¹⁸⁶ In addition to offering higher rates, the IFC typically acts as first lender and will finance the transaction itself, selling off participation interests to other lenders.¹⁸⁷ The IFC documents and administers the loans, and will collect and distribute pro-rata loan repayments.¹⁸⁸ In contrast to the IFC, the World Bank can only loan to host governments.¹⁸⁹

The case of the Chad-Cameroon pipeline represents one application of political risk management strategies.¹⁹⁰ A consortium of majors with production stakes in oil-rich Chad sought to export crude by pipeline through Cameroon.¹⁹¹ Like Uganda, Chad is landlocked and its regional demand was (and still is) insufficient to consume at the levels the consortium sought to produce.¹⁹² Because Libya and Sudan, countries deemed too unstable for such a project, bordered Chad to its north and east, the pipeline would have to pass through the country’s western border and across Cameroon to the Atlantic Coast.¹⁹³

In this project, the sponsor sought to mitigate political risk through (1) stake reduction, by financing much of the project through bank loans and adopting a project finance model that made the loan non-recourse to the sponsor upon completion of the project, and (2) deterrence, by sharing risk with strategic lenders that would lean heavily on the host government to ensure the sponsor could continue to service its debt.¹⁹⁴ The World Bank’s involvement in the project consisted of loans to Chad and Cameroon to purchase equity in the project, as opposed to a loan directly to the sponsor.¹⁹⁵ Because Chad and Cameroon then paid that loan to the project sponsor in return for equity, however, the World Bank loans to Chad and Cameroon functioned as equity contributions to the sponsor. Importantly, the inclusion of the World Bank created a sort of “halo effect” that attracted other lenders to the project.¹⁹⁶ The pipeline case

185. HOFFMAN, *supra* note 163, at 268.

186. *Id.* at 258.

187. *Id.* at 258–59.

188. *Id.* at 259.

189. *Id.* at 258.

190. See generally Stephen V. Arbogast, *Project Financing & Political Risk Mitigation: The Singular Case of the Chad-Cameroon Pipeline*, 4 TEX. J. OIL GAS & ENERGY L. 269 (2009) (discussing the political risks affecting the Chad-Cameroon pipeline and evaluating the efficacy of contractual risk-mitigation provisions associated with the pipeline’s financing).

191. *Id.* at 277.

192. *Id.*

193. *Id.*

194. *Id.* at 278.

195. *Id.* at 280.

196. *Id.* at 279.

also raises two additional risk mitigation strategies: equity participation and the project finance model itself.

Equity participation reduces risk on the simple premise that the host country, so long as it has a stake in the project, wishes the project to succeed. Such equity participation may be grass roots, at the level of local community corporations, or in the form of joint venture with the NOC.¹⁹⁷ The borrower could carry the community corporation or NOC for a few years, after which the corporation or NOC would be required to make proportionate contributions to fund its share of the working interest.¹⁹⁸ Some Chinese investors have made host countries project stakeholders not by granting equity interests, but by tying local infrastructure projects of interest to the host governments to successful development of its petroleum venture.¹⁹⁹

The project finance model itself may have a role in political risk mitigation and offers an additional reason why international RBL has components of traditional project finance loans. According to one study, “financial transactions become transparent through cash waterfalls that summarize a project’s cash flow and assign priority to each cash inflow and outflow. . . . [In this manner], cash flows cannot easily be . . . diverted by the management. Moreover, interventions from . . . the government become easily observable.”²⁰⁰ In other words, the fact that the project represents the source of all cash flows and that such cash flows are allocated in a clear, hierarchical manner makes it easier for outsiders (including lenders) to spot government tampering with the project. The use of project finance models in markets with significant political risk lends credibility to this theory, though practitioners interviewed for this discussion had not considered this mode of financing in such terms.²⁰¹

Lenders might also purchase political risk insurance, available from both development banks and commercial insurance brokerages. The scope of coverage provided by development banks varies from institution to institution, but most have limits on the percentage or dollar cost of a project they will cover, and exclude certain categories of risk from their policies.²⁰² The Multilateral Investment Guarantee Agency (MIGA) writes insurance policies to encourage foreign investment in member

197. Emeka Duruigbo, *Community Equity Participation in African Petroleum Ventures: Path to Economic Growth?*, 35 N.C. CENT. L. REV. 111, 114 (2013). Interestingly, this article highlights the Texas Relinquishment Act as a model for equity participation. The Act provides that a surface owner of lands to which the state holds title to the minerals may lease the land on behalf of the state in exchange for one-half of the lease benefits.

198. *Id.* at 138.

199. *Id.* at 123.

200. Hainz & Kleimeier, *supra* note 183, at 5.

201. See Kelley, *supra* note 7; Hunsaker, *supra* note 4.

202. HOFFMAN, *supra* note 163, at 256–66.

countries.²⁰³ Since 2006, MIGA has insured against traditional and regulatory risk for debt amounts up to four times the size of the borrower's equity investment.²⁰⁴ The Overseas Private Investment Corporation (OPIC) provides insurance and loans to U.S. citizens and corporations.²⁰⁵ In considering whether to write a policy, OPIC evaluates the effect of the investment on both the host country and the U.S. economy.²⁰⁶ The U.S. Export-Import Bank will insure projects provided they meet a domestic content export requirement.²⁰⁷ The World Bank, discussed above in the context of deterrence, will guarantee commercial loans to project sponsors provided the host country issues a counter guarantee.²⁰⁸ Borrowers may also independently request sovereign guarantees, though such guarantees likely have only limited value in the traditional political risk context, particularly if the influence of the World Bank cannot be brought to bear.²⁰⁹

When the desired coverage cannot be obtained from a development bank, where for example the project runs contrary to U.S. policy (in the case of insurance sought from OPIC) or will be operated in a non-member country (in the case of insurance from MIGA), commercial insurance can be tailored to suit any set of risk needs, albeit for a price.²¹⁰ Thus, although political risk may be reduced, the appropriate mitigation strategy will likely vary from project to project and may impose additional transaction costs on the borrower, possibly pushing RBL out of the reach of the small to midsize companies most apt to rely on it.

V. CONCLUSION

As limitations on RBL demonstrate, RBL is not always feasible for small to midcap E&P companies in emerging markets. Though companies may be able to overcome some of these obstacles by creating security interests in assets other than the reserves, by working with larger IOCs to project finance deliverability infrastructure needed to transport oil and gas to market, and by reducing political risk through mitigation strategies, and though international lenders have adapted by focusing on preventing the occurrence of a default, challenges to RBL nevertheless remain formidable, and the number of reserve-based loans in emerging

203. *Id.* at 256–57.

204. *Id.* at 257.

205. *Id.* at 260–61.

206. *Id.*

207. Hussey, *supra* note 91.

208. HOFFMAN, *supra* note 163, at 259.

209. *Id.* at 267–68.

210. Hussey, *supra* note 91. Commercial insurers commonly include a confidentiality clause prohibiting the borrower from disclosing the existence of the policy so as not to embolden the sovereign to seek unilateral revision of the contract terms. *Id.*

markets relative to domestic markets is small. Still, this state of play may be changing.

According to some analysts, “[d]espite difficult market conditions, reserves-based lending has reached its zenith in terms of liquidity and deal sizing . . . , serving new clients on new assets in riskier jurisdictions than ever before.”²¹¹ RBL has become the financing technique of choice for independents, like Tullow, operating in emerging markets. This development may be attributable to the growing presence in emerging markets of independents that lack the balance sheets to finance internally or creditworthiness to borrow on the public debt markets. These independents value the flexibility of the revolving credit facility and the ability to substitute properties in the borrowing base as companies buy and sell reserve assets. The prominence of international RBL could also be due to the growing sophistication of lenders. As banks have honed their RBL assumptions and tested cover ratios, international lenders have come to focus less on what they can salvage in the event of default and more on structuring loans to reduce the probability a default ever occurs. Some commentators even speculate that because of the strictures around which international RBL has evolved, “the frequency of default may be higher in the U.S. market.”²¹²

Most importantly, banks remain willing to offer reserve-based loans. According to Jason Fox at the law firm Bracewell & Giuliani, “There have only been three or four cases where banks have actually lost money in the last 25 years.”²¹³ This statistic is hardly surprising given (1) banks’ discretion in revising the borrowing base and the inclusion of security interests in the case of the domestic model, and (2) the focus on preventing a default in the international mode. But nonetheless, the statistic speaks to the general availability of reserve-based loans for companies willing to bear the associated risks. As the examples of Tullow and Petroceltic make clear, companies *are* willing to bear these risks, even if, as in Tullow’s case, they call on IOC partners to assist in financing infrastructure required to deliver production to market. As more lenders come to understand the project economics of reserve-based loans in emerging markets and develop the expertise to size loans accordingly, RBL will become more prevalent internationally. The

211. *Sizing and structuring*, *supra* note 140 (“One explanation for the rude health of the market, split between London and Houston, is the growing number of independent exploration and production companies moving into new regions. Unlike oil majors, these younger producers lack capacious balance sheets, so their best option is the structured debt market. Borrowers like revolving reserves-based facilities because they give them flexibility in implementing spending plans, and portfolio deals allow them to add or remove borrowing base assets.”).

212. Fox, Gonsoulin & Price, *Part 4*, *supra* note 35 (“However it should be emphasized that losses even in both markets are extremely rare.”).

213. *Sizing and structuring*, *supra* note 140 (internal quotation marks omitted).

2014] RESERVE-BASED LENDING IN EMERGING MARKETS 179

emergence of a new source of financing that better addresses deliverability and political risk could derail RBL's growth, but until this happens, RBL will likely remain the standard.