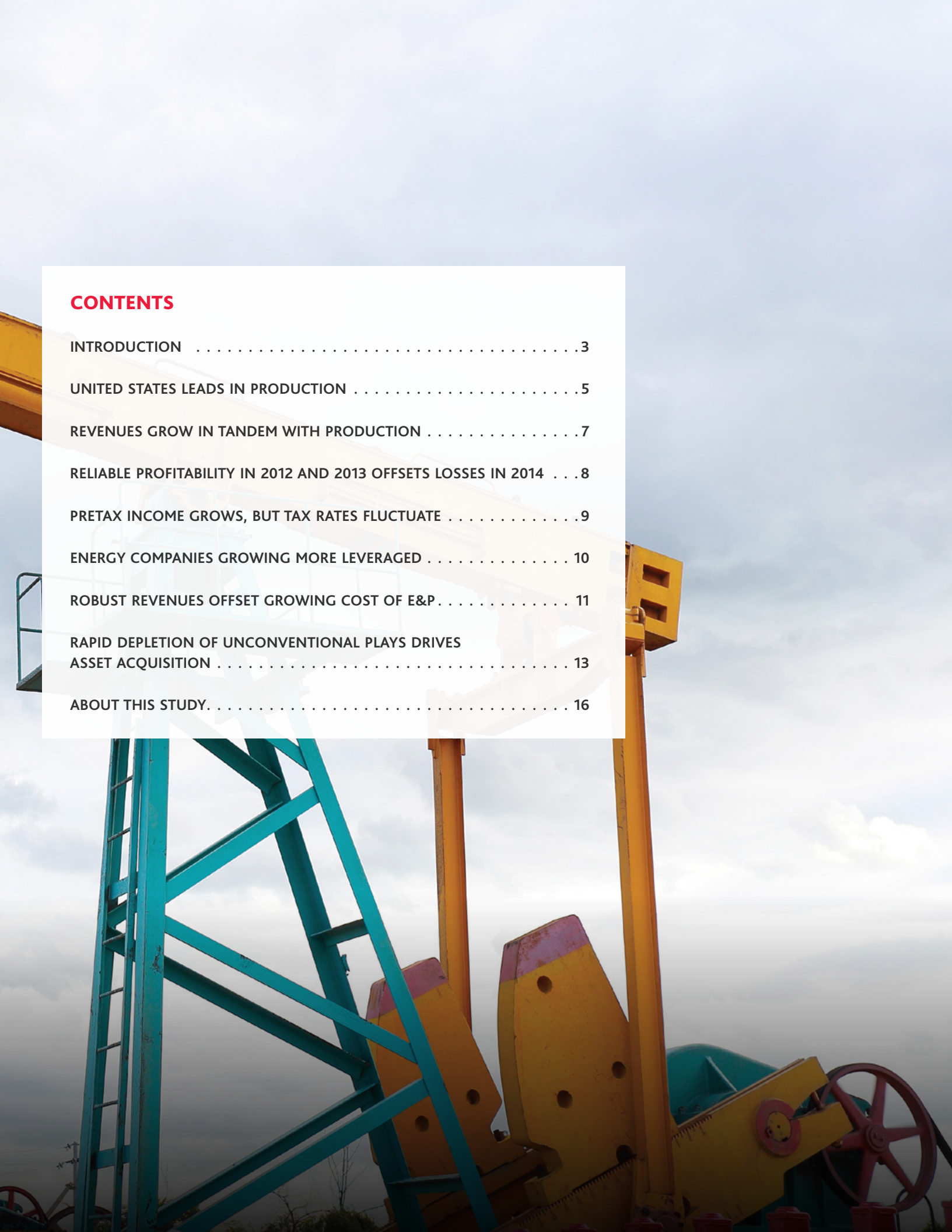
2015 BDO GLOBAL ENERGY MIDDLE MARKET MONITOR

BURSTING THE BUBBLE: GLOBAL ENERGY SECTOR RISES AND FALLS ON MIDDLE MARKET COMPANIES

BDO



CONTENTS

INTRODUCTION 3

UNITED STATES LEADS IN PRODUCTION 5

REVENUES GROW IN TANDEM WITH PRODUCTION 7

RELIABLE PROFITABILITY IN 2012 AND 2013 OFFSETS LOSSES IN 2014 . . . 8

PRETAX INCOME GROWS, BUT TAX RATES FLUCTUATE 9

ENERGY COMPANIES GROWING MORE LEVERAGED 10

ROBUST REVENUES OFFSET GROWING COST OF E&P 11

RAPID DEPLETION OF UNCONVENTIONAL PLAYS DRIVES ASSET ACQUISITION 13

ABOUT THIS STUDY 16

The ***2015 BDO Global Energy Middle Market Monitor*** reviews and analyses financial data reported by 265 publicly traded middle market oil & gas companies from 25 country and international stock exchanges from 2012 to 2014. The companies analysed reported revenues up to $4.95 billion, with median revenue of $110 million. Companies were primarily traded on exchanges in Australia, Canada, the United Kingdom and the United States. All data was sourced through S&P Capital IQ.

See methodology note toward the end of this report for more information.

ABOUT BDO

BDO International Limited is a UK company limited by guarantee. It is the governing entity of the international BDO network of independent member firms ('the BDO network'). Service provision within the BDO network is coordinated by Brussels Worldwide Services BVBA, a limited liability company incorporated in Belgium with its statutory seat in Brussels.

Each of BDO International Limited, Brussels Worldwide Services BVBA and the member firms of the BDO network is a separate legal entity and has no liability for another such entity's acts or omissions. Nothing in the arrangements or rules of the BDO network shall constitute or imply an agency relationship or a partnership between BDO International Limited, Brussels Worldwide Services BVBA and/or the member firms of the BDO network.

BDO is the brand name for the BDO network and for each of the BDO member firms.

"A new order for the global oil & gas industry has emerged over the past decade as innovation unseated conventional resources and propelled new entrants to the market to the fore. Middle market companies have been some of the greatest beneficiaries of this paradigm shift, and with some smart planning, could be poised to emerge from the past year's commodity price drop stronger than ever."

– Charles Dewhurst, Global Leader of the Natural Resources practice at BDO

Introduction

Over the past decade, the international oil & gas industry enjoyed unprecedented growth and prosperity, driven largely by the renaissance of North American energy production. The shale boom in the United States and the success of the Canadian oil sands have introduced abundant new supply to the global market, promising to meet rapidly growing demand and loosening OPEC's tight grip on the industry.

In the midst of these boom times, middle market companies have seen some of the greatest success in exploiting new energy resources and capitalising on global appetite for inexpensive supply. These companies have been able to specialize in novel drilling techniques to access tight oil and shale gas, and have proven nimble where the Supermajors have been slow to move. According to BDO's ***2015 Global Energy Middle Market Monitor***, from 2012 to the first half of 2014, middle market exploration and production (E&P) companies saw significant growth in production and revenues, as well as solid profitability.

But with the second half of 2014 came the sudden and sustained decline in global oil prices, stopping the industry in its tracks. Financial performance began to slow, and companies stepped back to re-evaluate their plans for 2015 as prices struggled to rebound – initially rising in the first half of 2015 before dropping again in the summer. The oil price rout of 2014 and 2015 has provided an essential reality check for an industry that had previously experienced robust, rapid growth – suggesting that yet another downturn cycle is well underway, and the industry as a whole is now rightsizing to ensure a stable and prosperous future.

The **2015 Global Energy Middle Market Monitor** found that median daily production grew by

50%

between 2012 and 2014.

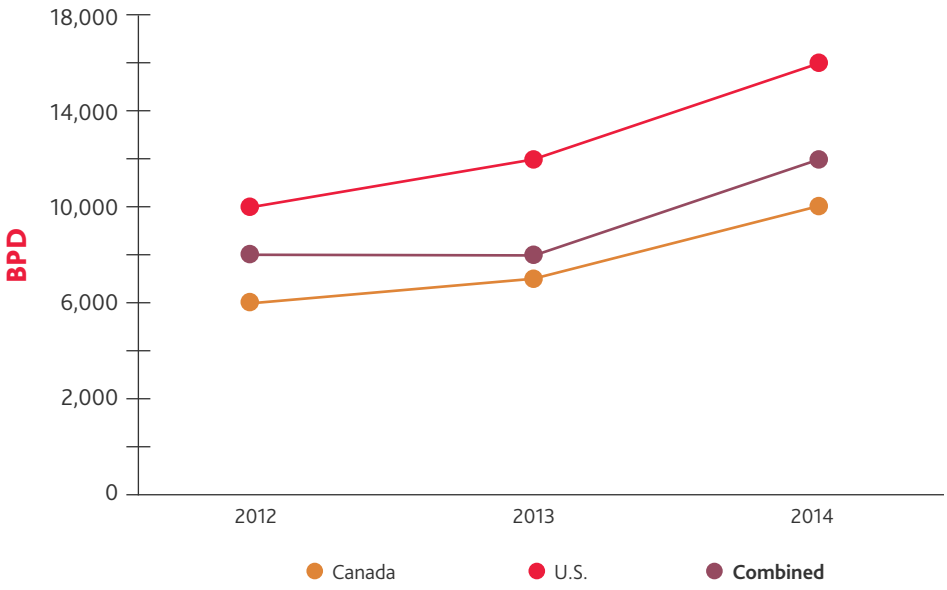
United States Leads in Production

Unsurprisingly, oil production grew significantly between 2012 and 2014, with the study finding that average daily production[1] grew by 50 percent over the three-year period analysed – from a median of 8,000 barrels of oil equivalent per day (BPD) in 2012 to a median of 12,000 BPD in 2014.

Despite the drop in oil prices in the second half of 2014, the growth primarily occurred in 2014, suggesting that 2012 and 2013 served more as "investment years" for oil producers. Then, in 2014, companies opened up the production spigot – unfortunately coinciding with a 50 percent drop in prices during the second half of the year. In some ways, this increase in production in 2014 heralded the decline of crude oil prices. It flooded the market with supply which, in previous years, had offset shut-in Middle East production. But as Middle Eastern production also began to ramp up – with OPEC waiving any further production controls – demand was unable to keep up with the rapid growth in supply.

Activity in the United States accounted for a substantial proportion of overall production, with the median daily production among U.S.-listed companies growing by 60 percent, from 10,000 BPD in 2012 to 16,000 BPD in 2014. However, Canadian-listed companies saw an even higher rate of growth, with median daily production growing 67 percent between 2012 and 2014.

MEDIAN DAILY PRODUCTION



Date	WTI Price ($USD/barrel)	Brent Price ($USD/Barrel)	Natural Gas Price ($USD/MMBTU)
2012 Average	$94.14	$111.96	$2.75
2013 Average	$97.94	$108.85	$3.73
1H 2014 Average	$100.95	$108.87	$4.89
2H 2014 Average	$85.32	$89.02	$3.85

Source: Index Mundi

1 Due to differences in financial reporting requirements, only U.S. and Canadian companies were included in the overall calculations for Average Daily Production. However, U.S. and Canadian companies account for about two-thirds of the total sample analysed in this study.

"A combination of robust M&A activity and the expansion of major projects in both South Australia and the United States has driven considerable growth for the Australian oil & gas sector. While Australia's energy sector is not as large as that of the United States or Canada, it is a thriving industry that is proving critical to the global market."

– Sherif Andrawes, National Leader of the Natural Resources practice at BDO Australia

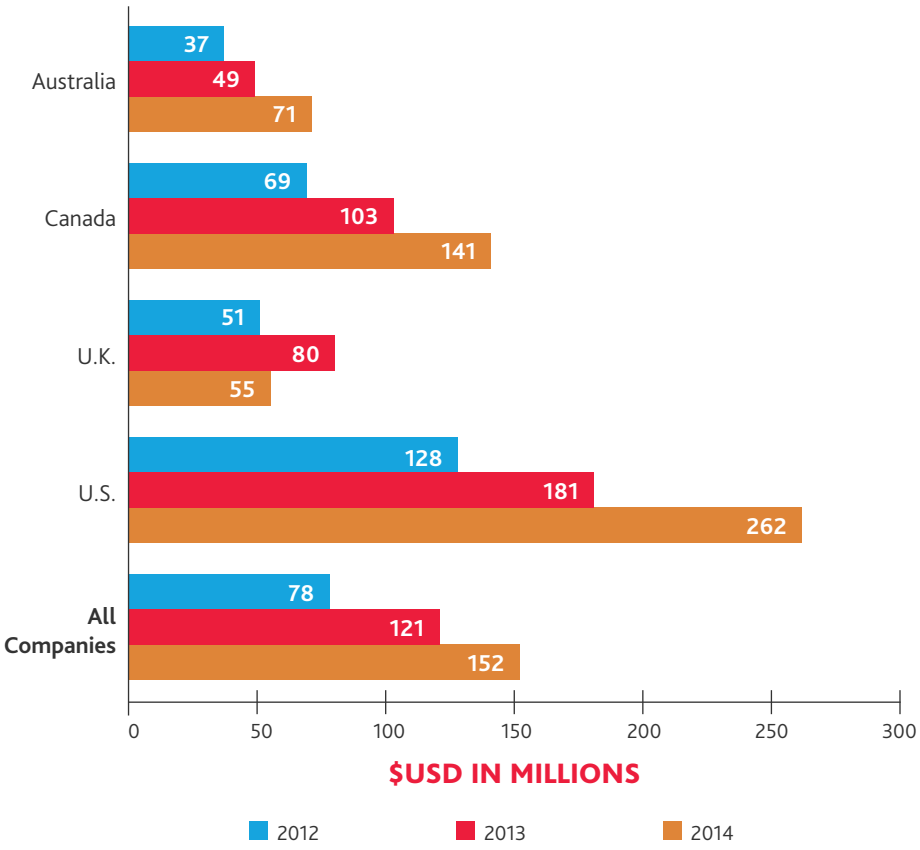
Revenues Grow in Tandem with Production

Annual revenue among the companies also grew over the period of the study, as generally strong prices supported increased production through the first half of 2014.

The median annual revenue for the full sample nearly doubled, from $78 million in 2012 to $152 million in 2014. As with production, median U.S. revenues were consistently the highest in the study at approximately 1.5 to 2 times the overall median for all three years analysed. While oil production served as a key driver of growth through the first half of 2014, the industry likely derived additional revenue wins across other segments of their business, including natural gas production (which has enjoyed more stable prices relative to oil prices), any midstream services they may offer and the benefits of hedging arrangements.

Revenue growth was strong among both Australian and Canadian companies, as well – Australia's median revenue nearly doubled between 2012 and 2014, and Canada's shot up by 104 percent. Canada's significant revenue growth may be attributed to an uptick in production in the oil sands, with companies like CRNL, Cenovus, Imperial and Devon all beginning new projects in 2013 and ramping up production in early 2014. Meanwhile, the U.K. saw the lowest rate of growth, with median revenues increasing a mere 8 percent from 2012 to 2014. However, the U.K. did see a spike in median revenues in 2013, increasing over 2012's figures by about 57 percent before dropping again in 2014.

MEDIAN ANNUAL REVENUE

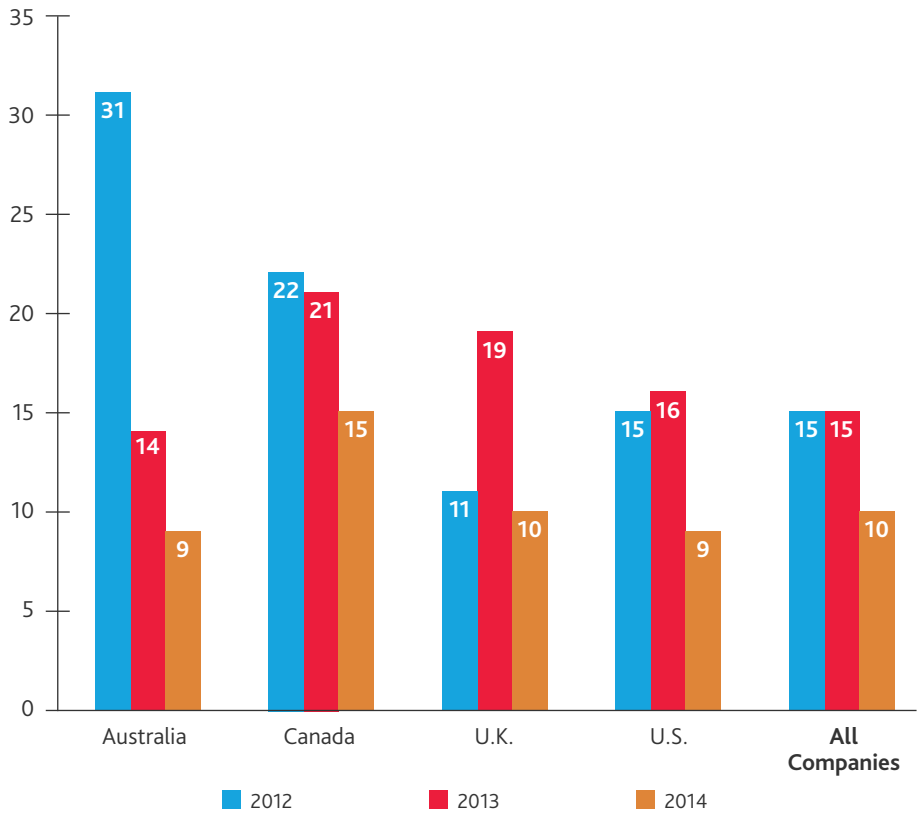


Reliable Profitability in 2012 and 2013 Offsets Losses in 2014

On a global scale, profitability metrics – namely, price-earnings (PE) ratios – remained stable in 2012 and 2013 before dropping in 2014, aligning with oil price trends over the past three years. The median PE ratio across all companies examined remained consistent in 2012 and 2013 at a multiple of 15. However, over the course of 2014, the median PE ratio declined by one-third to a multiple of 10, highlighting the deleterious impact of the decline in oil prices.

Among the major countries examined in the study, Australia saw the greatest decline in PE ratios, decreasing from 31 in 2012 to nine in 2014. Meanwhile, the U.K. saw the smallest decline, with the median decreasing to 10 in 2014 from 11 in 2012 – though the country did see a spike in PE ratios in 2013.

MEDIAN HISTORIC PE RATIO



"Unlike many North American energy companies, a substantial proportion of U.K. companies' production is exported to foreign markets. Hence, PE ratios and other performance indicators are more sensitive to events and pricing worldwide."

– Scott McNaughton, Head of the Natural Resources practice at BDO United Kingdom

Pretax Income Grows, but Tax Rates Fluctuate

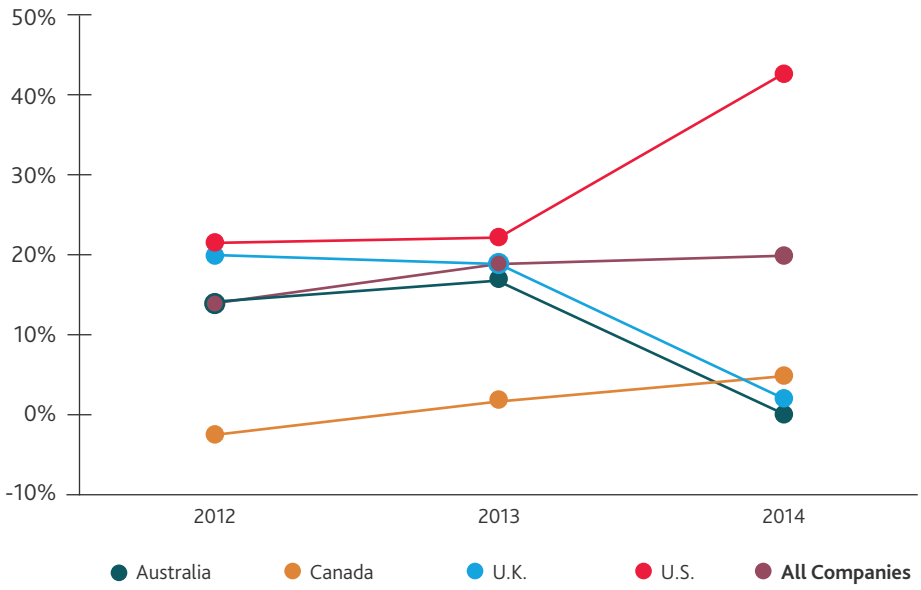
Pretax income as a percentage of revenue also closely aligns with the industry's exploration and production cycle over the past three years. The median pretax income in 2012 was relatively low at only 14 percent of revenue as companies began to acquire and explore assets. As these assets were produced and began generating marketable product, pretax income grew to 19 percent of revenue in 2013 before continuing upward to 20 percent in 2014. That said, it is likely that pretax income in 2014 could have been higher had commodity prices not squeezed production toward the end of the year.

Much of the growth in pretax income can be attributed to the U.S.- and Canadian-listed companies represented in the study sample. Canada, in particular, serves as a success story, moving from minus 3 percent in 2012 to plus 5 percent in 2014. Australia and the U.K., however, saw far more fluctuation: Australia experienced initial growth in pretax income as a percentage of revenue between 2012 and 2013 before it dropped again in 2014, while the U.K. median declined by 85 percent over the course of the study.

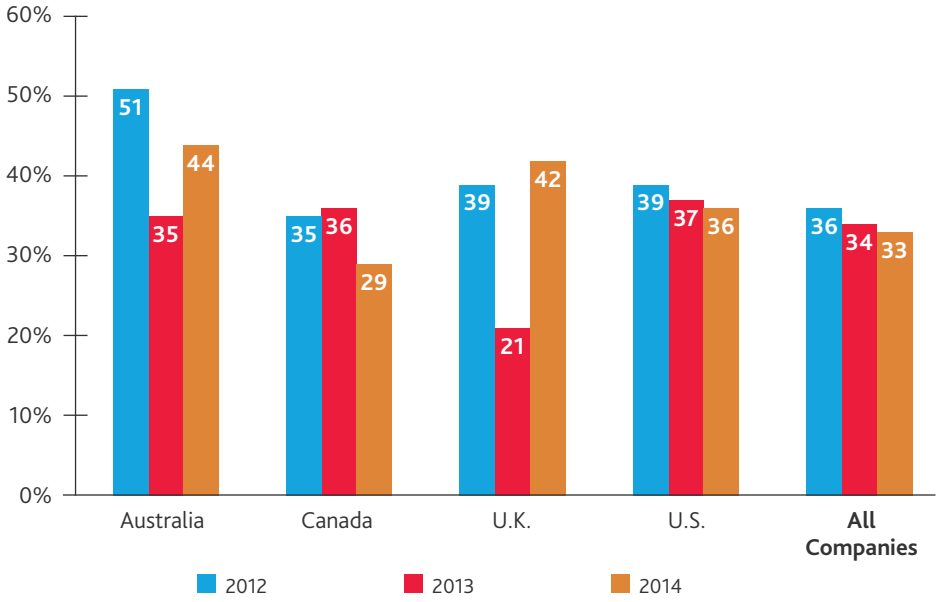
In terms of effective corporate tax rates, the median global rate fell by about 8 percent between 2012 and 2014. Each country analysed, save for the U.K., saw their effective tax rates fall to some degree, with the United States seeing the smallest drop (8 percent), and Canada seeing the largest (17 percent). Meanwhile, the U.K.'s effective tax rate grew by 8 percent.

It may be that these lower rates have been impacted by losses in the form of valuation allowances in 2008 and 2009, before the run-up in production. Losses that were carried forward from that time are likely being reflected in the more recent corporate rates. Given last year's market malaise – and slow recovery to date – this pattern may repeat itself in 2017 and 2018, as well.

MEDIAN PRETAX INCOME/LOSS AS A PERCENTAGE OF REVENUE



MEDIAN EFFECTIVE TAX RATE



Energy Companies Growing More Leveraged

As the oil & gas sector continued to grow globally, so did companies' reliance on debt financing. From 2012 to 2014, the median debt ratio reported across all companies in the sample grew steadily from 47 percent to 58 percent, a 23 percent increase. As companies made significant investments in their businesses in 2012 and 2013 – and sought to take advantage of new opportunities, particularly in North America – they enjoyed easy access to debt capital thanks to low interest rates implemented by a number of governments to help stimulate their sluggish economies.

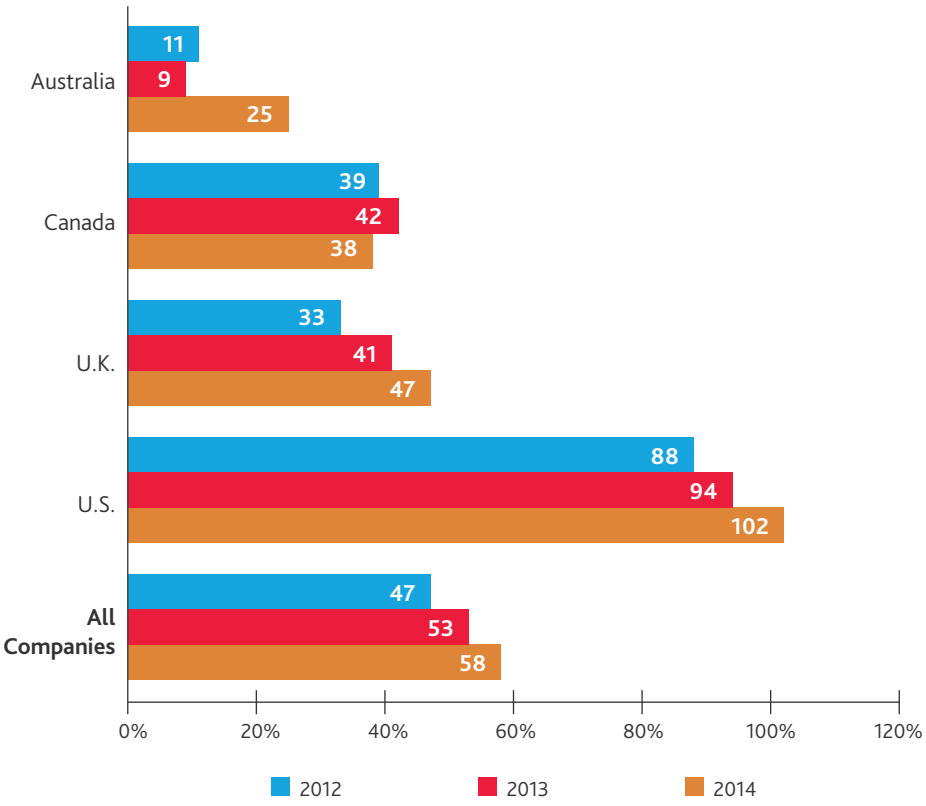
Debt financing can be an expeditious way to raise the funds necessary to foster continued growth; it is less time-consuming than equity, and the compliance burdens are far more manageable than those associated with public offerings. However, this leverage has placed many oil & gas companies in a precarious position as prices have fallen, thereby reducing their ability to meet their debt service requirements. Bankruptcy looms large for companies who did not prepare for the downturn and counted on continued growth in demand for their product to survive their increased debt levels.

Almost all countries assessed in the study experienced increasing debt ratios among their oil & gas companies between 2012 and 2014. On a country-by-country basis, U.S.-listed companies carried the highest debt burden, with the median ratio growing from 88 percent in 2012 to 102 percent in 2014. U.K. companies were also highly leveraged, albeit less so than the United States: Their median debt ratio was 33 percent in 2012 and increased to 47 percent in 2014.

Meanwhile, Canadian and Australian companies report lower debt levels, topping out at 42 percent and 25 percent, respectively. This may be due in part to differing banking and financing practices in each country. For example, in Canada, banks will only lend up to a certain percentage of reserves for a company, limiting the amount of debt Canadian oil & gas producers can incur.

Australian companies, on the other hand, do not typically rely on traditional debt financing during the exploration and production phases, preferring instead to use equity financing or convertible debt arrangements. The increased debt levels Australia saw in 2014, however, could be due to the commencement or expansion of production in the Cooper Basin in South Australia and in North American plays. These activities may have required companies to acquire either smaller producers or interests in assets currently produced by larger companies, which could be the impetus for atypical borrowing levels.

MEDIAN DEBT RATIO



Robust Revenues Offset Growing Cost of E&P

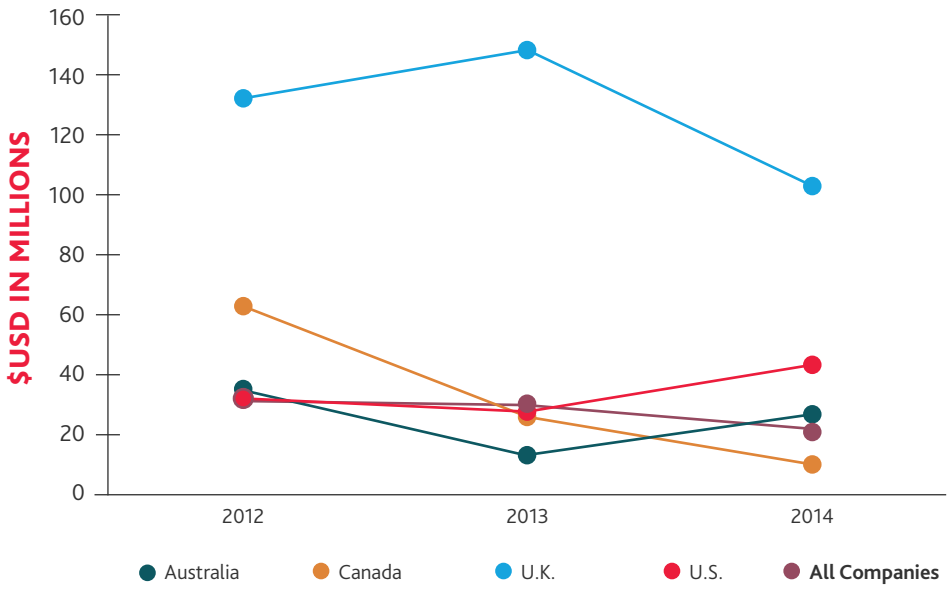
Between 2012 and 2014, oil & gas companies saw the median cost of exploration and production trend inversely, with exploration costs decreasing while production costs increased. The median exploration cost across all countries was $35 million in 2012, and declined to $21 million in 2014 – a 40 percent decrease. Production costs, however, inflated from a median of $30 million in 2012 to $49 million in 2014.

Behind the proliferating production costs is the price inflation for oilfield services. As E&P companies' demand for oilfield services grew to support their accelerating operations amid the favourable commodity price environment, so did the prices services companies were able to command. However, as prices plummeted in the second half of 2014, companies dramatically reduced their exploration activity, with IHS reporting that new discoveries of conventional oil & gas reserves reached a 20-year low that year.

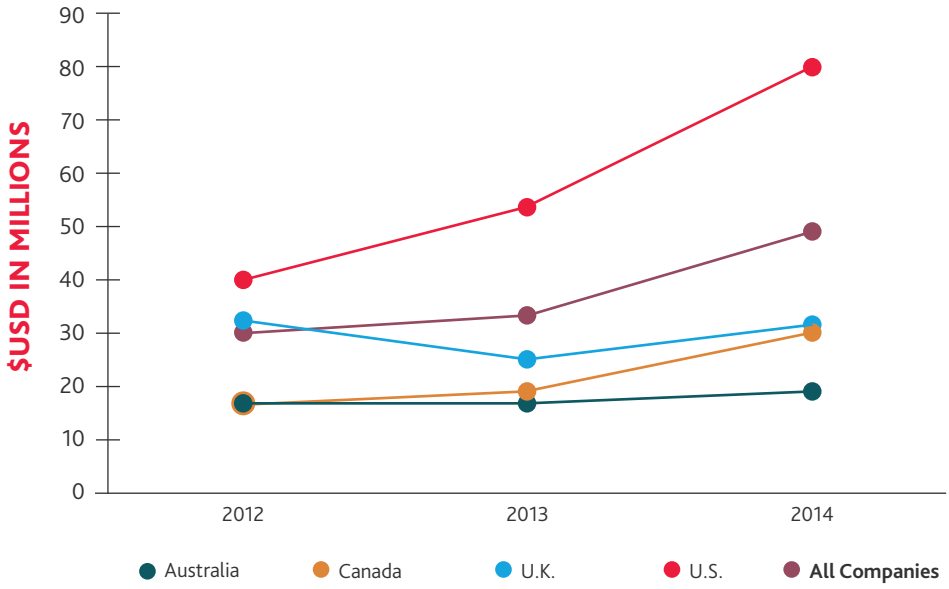
The market has begun to correct itself, though. In 2015, exploration costs have already begun to rightsize as E&P companies and oilfield services companies reset their pricing structures for services and reassess their previous attempts to scale their businesses. In addition, with less cash to support investment in projects – as well as uncertainty over the future of projects – the sector may also experience a glut of available oilfield services, leading services firms to further reduce their prices.

Among the four primary countries analysed, the United States experienced the highest median production costs, while the U.K. saw the highest median exploration costs. In addition, the United States was the only country in the study to experience an increase in exploration costs from 2012 to 2014, though the U.K. saw growth between 2012 and 2013 before dropping again in 2014. The trends observed among

MEDIAN ANNUAL EXPLORATION COSTS



MEDIAN ANNUAL PRODUCTION COSTS (INCLUDING TAXES)



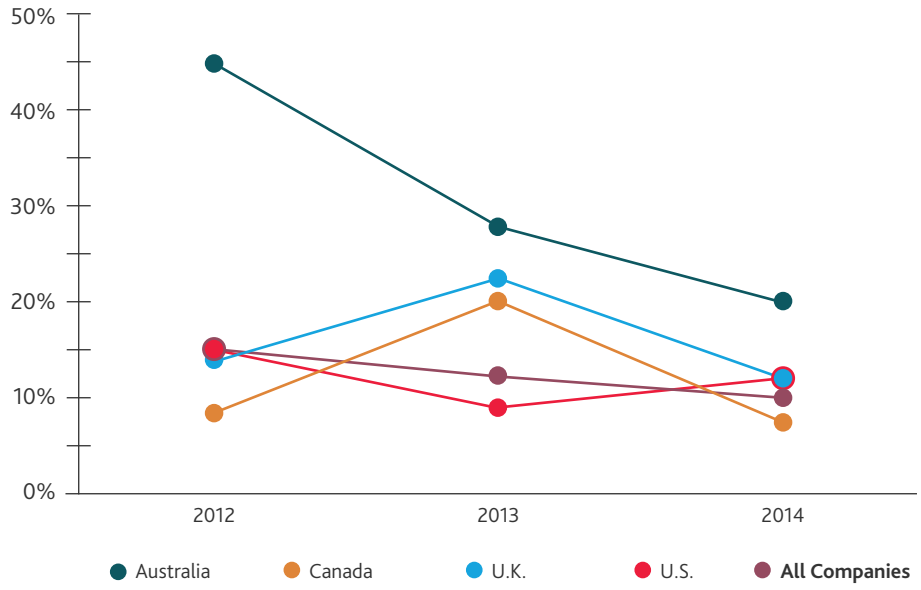
U.S. companies are likely due to the sheer volume of exploration and production undertaken within the United States. A secondary factor for the United States may also be the high cost of the hydraulic fracturing techniques required to exploit shale resources. Meanwhile, the U.K. may have reported higher exploration costs because a substantial number of the companies analysed remain in the pre-production phase.

Canada and Australia, in general, saw more modest E&P costs across the study. Most notably, Canada recorded the largest decline in median exploration costs seen in the study – from $63 million in 2012 to just $10 million in 2014. This is likely due to the fact that Canadian oil production tends to occur in the first and fourth quarters of the year, when the northernmost fields are accessible via ice coverage. By Q4 2014, low oil prices may have driven companies to reduce their activities – and by extension, their costs – for the quarter.

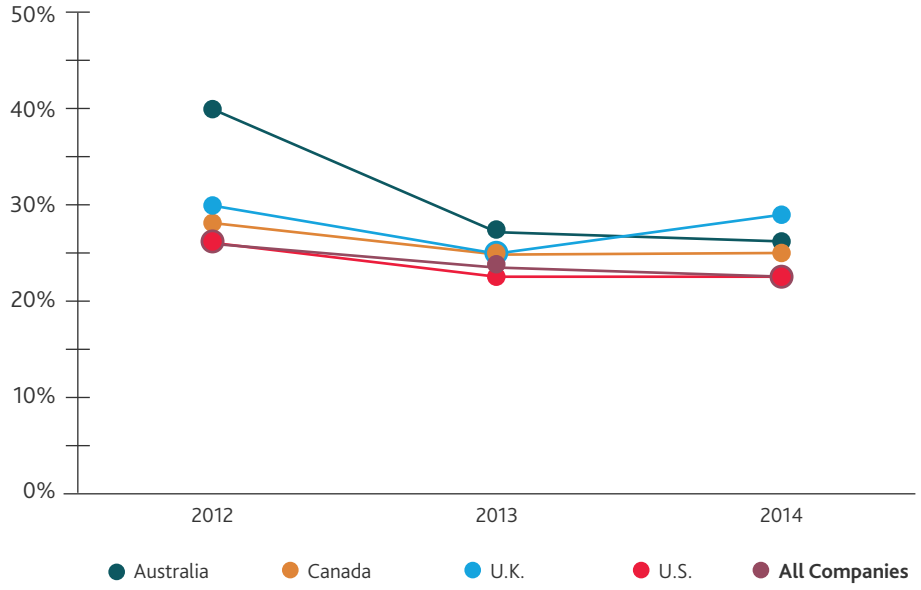
These expenditures' share of revenue, however, has declined over the past three years. Exploration costs as a proportion of revenue dropped slightly from a median of 29 percent in 2012 to 25 percent in 2014, after briefly increasing to 39 percent in 2013. Production costs as a percentage of revenue experienced a concurrent decline from 26 percent in 2012 to 23 percent in 2014. With total revenue growing amid burgeoning production and high commodity prices through the first half of 2014, it appears that many companies have been able to absorb the fluctuations in E&P costs, either through increases in revenue or in finding operational efficiencies.

The country-specific data largely aligns with the global median, with all countries seeing E&P costs as a percentage of revenue decline year-over-year – albeit to varying degrees. Australia in particular saw the greatest decline in expenditures as a proportion of revenue: Production costs fell from 45 percent of revenue to 26 percent from 2012 to 2014, while exploration costs decreased from 45 percent to 20 percent of revenue over the period analysed.

MEDIAN EXPLORATION COSTS AS A PERCENTAGE OF ANNUAL REVENUE



MEDIAN PRODUCTION COSTS AS A PERCENTAGE OF ANNUAL REVENUE



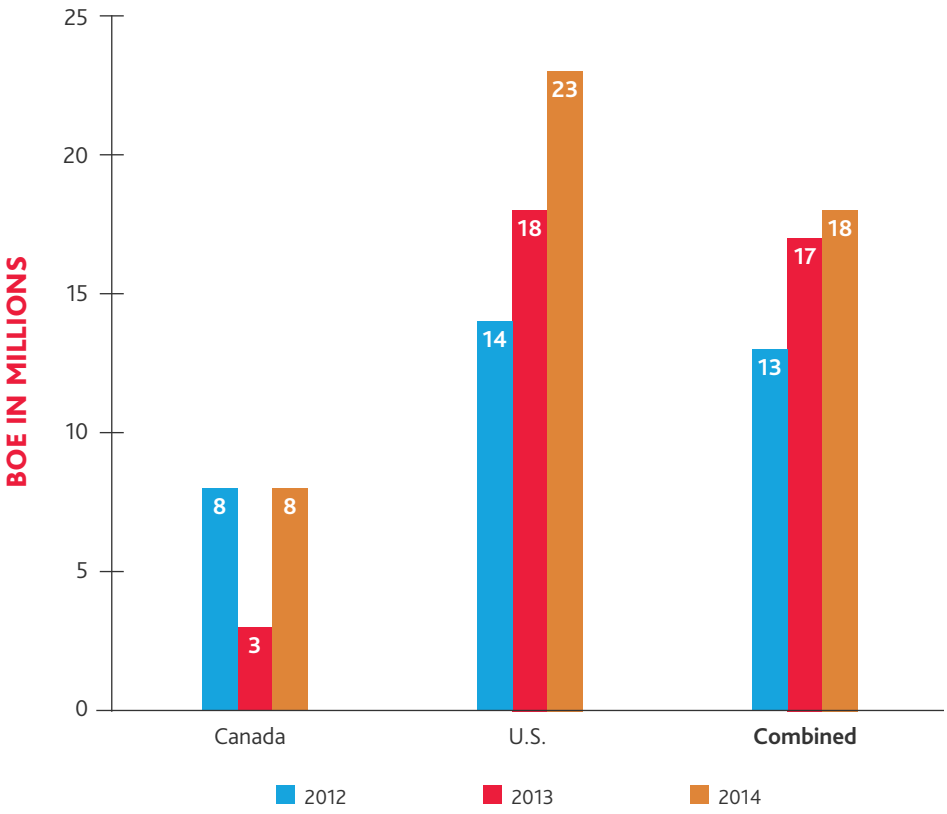
Rapid Depletion of Unconventional Plays Drives Asset Acquisition

U.S.- and Canadian-listed companies experienced inconsistent performance in both their overall proved reserves and their reserve additions between 2012 and 2014. [2] The median quantity of total proved reserves grew by only 13 percent between 2012 and 2014, despite seeing a substantial increase in 2013, when the median reached 53 million BOE. The United States served as the main driver of the increase, nearly doubling their proved reserves between 2012 and 2014.

Meanwhile, reserve additions grew a respectable 38 percent, from a median of 13 million BOE in 2012 to 18 million BOE in 2014. U.S. companies again drove the majority of this growth, posting steady increases year-over-year. However, Canadian companies' asset acquisitions were more uneven, securing a median of 8 million BOE in 2012, followed by only 3 million BOE in 2013 before returning to 8 million BOE in 2014. This suggests quite clearly that both U.S.- and Canadian-listed middle market companies were "following the money" throughout the 2012-2014 period, making a number of strategic asset acquisitions before they could be boxed out by larger companies. U.S. growth was more consistent than Canada's simply due to the preponderance of shale plays throughout the country.

In terms of reserve replacement ratios, middle market companies in the U.S. and Canada have performed quite well over the past three years. Both countries saw healthy reserve replacements among their companies, nearing or exceeding 100 percent each year – in contrast to the Supermajors, many of whom struggled to achieve 100 percent replacement in recent years. For example, ExxonMobil barely exceeded the 100 percent mark the past two years; Shell reported a rate of only 26 percent for 2014.

MEDIAN RESERVE ADDITIONS (INCLUDING PURCHASES)



2 Due to differences in reporting requirements, only U.S. and Canadian companies were included in the overall calculations for reserves data. However, U.S. and Canadian companies account for about two-thirds of the total sample analysed in this study.

"The data suggests that the middle market firms represented in the study, particularly those listed in the U.S. and Canada, have demonstrated a high degree of agility. They are able to not only identify and move quickly on potential asset acquisitions, but also to rapidly ramp up production."

– Michael Madsen, National Leader of BDO Canada's Natural Resources practice

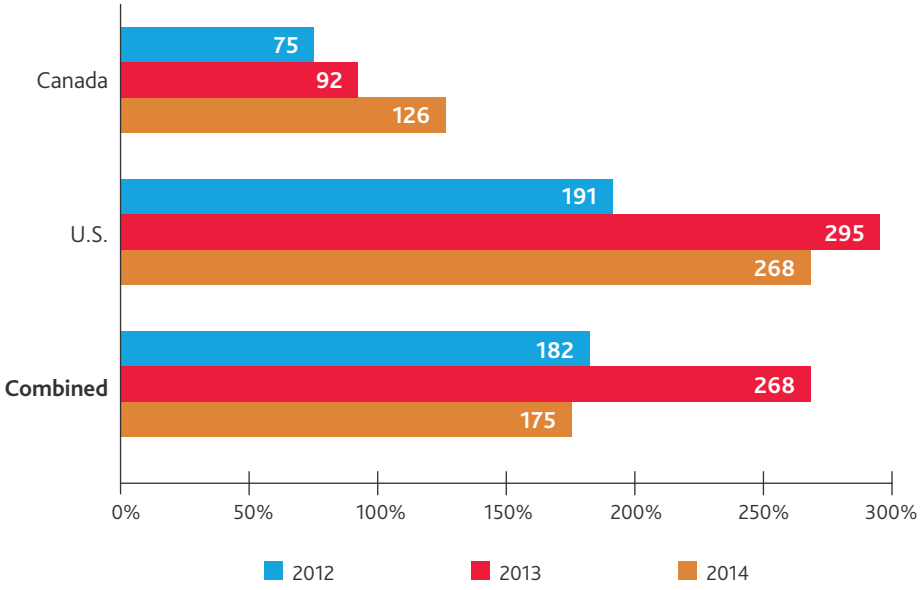
Despite high reserve replacement rates in general, the middle market overall saw some minor fluctuations between 2012 and 2014. The median reserve replacement ratio among North American companies reached 182 percent in 2012, grew to 268 percent in 2013 and then dropped to 175 percent in 2014, an approximately 4 percent drop over the study period.

In other words, reserve replacements are strong in North America, but may slow down in the years to come as E&P companies work to exploit the reserves they have acquired – but not developed – over the past few years.

Reserve life ratios, however, have changed very little during the past three years. The median reserve life declined modestly, from 13 years in 2012 to 12 years in 2014. Both the U.S. and Canadian median reserve life ratios remained relatively flat, starting and settling at 14 years and 8 years in 2014, respectively.

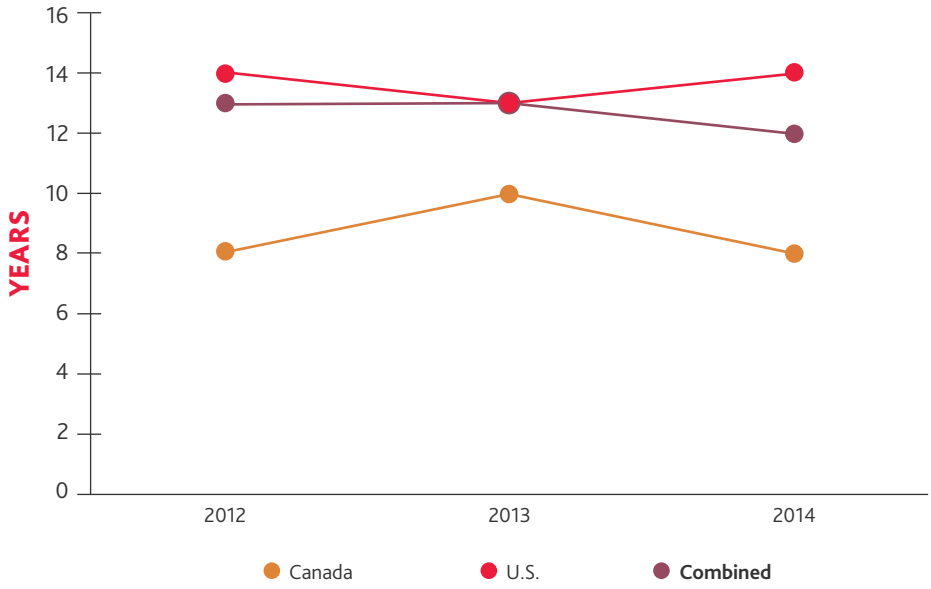
The stagnation of reserve life is largely driven by the short operational lives of shale plays in the United States as compared with conventional reserves. Typically, E&P companies quickly deplete shale reserves before moving on to the next play – which further drives the need for companies to maintain a torrid reserve replacement rate. In addition, unconventional reserves are subject to many of the same issues faced by conventional plays: inaccurate reserve estimates, dry holes, etc.

MEDIAN RESERVE REPLACEMENT RATIO



The inaugural ***Global Energy Middle Market Monitor*** study serves as a microcosm of industry trends over the past few years. In particular, it becomes clear how the rise of North America as a major energy player has fundamentally altered the global energy sector, shifting supply and demand dynamics and forcing other countries to evaluate how they can remain successful in this new reality. But perhaps more importantly, we also now see how the rapid – and to some extent, unchecked – growth of the North American oil & gas industry was destined to be unsustainable. The oversupply of oil followed by the subsequent decline of prices served as a critical reality check for E&P companies; as a high risk, high reward industry, it was only natural that some of the risks would eventually emerge. As companies look forward, we can expect to see continued, concerted efforts to rein in costs and to develop a more deliberate approach for economically producing these critical energy resources. Companies will need to plan more diligently, formulate contingencies, innovate and negotiate harder with creditors and governments alike to help protect future gains and cushion against future losses.

MEDIAN RESERVE LIFE RATIO



"The oil & gas industry is accustomed to thriving in an essentially speculative environment, but the speed at which this latest boom and bust cycle occurred is atypical. While unconventional technologies allowed operators, particularly the smaller ones, to prove and produce their holdings during a period of high oil prices, these operators also enjoyed the ability to level-set expenditures when the market changed. That flexibility will be an important asset when the next shift occurs."

– Charles Dewhurst, Global Leader of the Natural Resources practice at BDO

About This Study

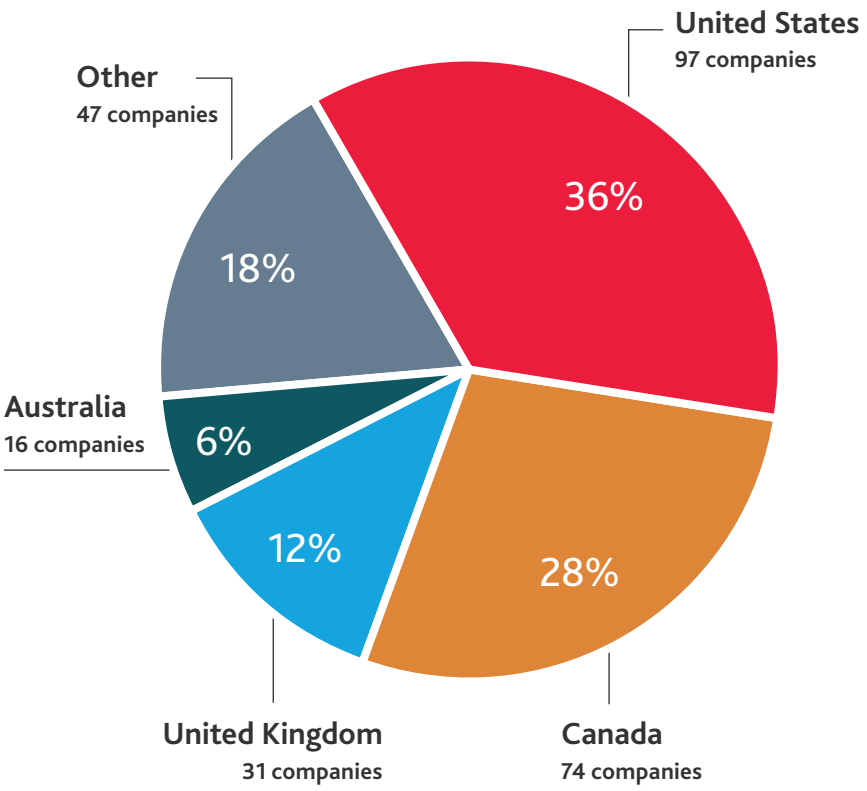
BDO's ***2015 Global Energy Middle Market Monitor*** analyses the financial performance of 265 middle market companies from 25 country stock exchanges from 2012 to 2014. Eighty-two percent of the companies reviewed were listed on exchanges in Australia, Canada, the United Kingdom and United States. Additional country exchanges represented include Argentina, Brazil, Bulgaria, France, Germany, Hong Kong, India, Indonesia, Israel, Japan, Malaysia, New Zealand, Norway, Pakistan, the Philippines, Poland, Russia, Singapore, Sweden, Turkey and Vietnam.

The companies analysed reported revenues up to $4.95 billion, with median revenue of $110 million.

Data was gathered from S&P Capital IQ. All monetary data was converted to U.S. dollars.

Due to differences in public company reporting requirements, reserves vitality data (total proved reserves, reserve additions, reserve replacement ratio and reserve life ratio) and daily production data were only available for U.S.- and Canadian-listed companies.

COUNTRY COMPOSITION



METRIC DEFINITIONS/CALCULATIONS

Category	Definition
Total Revenue	Includes revenues for the entire company, incorporating oil, gas, and NGL, as well as other components classified as other revenue.
Average Daily Oil Equivalent Production	Average daily production volumes of oil, gas and NGL.
Total Proved Reserves	The proved oil, natural gas and NGL of the given period. The total proved reserves is the summation of proved developed and proved undeveloped reserves of the given period. **This item includes:** Proved reserves **This item excludes:** Probable reserves Possible reserves Risked reserves
Reserve Additions	Extensions, discoveries and other additions represents the augmentation of oil, gas and NGL reserves on account of new discoveries, extensions and outside purchases (through acquisitions or otherwise) for the given period. This quantity is added to the opening balance of oil, gas and NGL reserves. **This item includes:** Proved reserves Probable reserves **This item excludes:** Possible reserves Risked reserves
Reserve Life Ratio	Total Proved Reserves / Total Production
Reserve Replacement Ratio	The percentage of annual production that was replaced through the finding of new reserves. **This item includes:** Acquisitions Divestitures
Price-Earnings Ratio (P/Diluted EPS excl. extraordinary items)	Stock price divided by diluted EPS before extraordinary items; stock price is determined based on the closing stock price on the date indicated as of the latest close price available in the Cap IQ database.
Debt Ratio	Total Debt / Total Equity
Effective Tax Rate	Income Tax Expense / EBIT, incl. unusual items
Pretax Income as a % of Revenue	EBIT / Total Revenue
Production Costs	The production cost plus production taxes of oil & gas for the given period.
Exploration Costs	The costs incurred by the company in explorative activities of oil, gas and NGL fields for the given period.
Production Costs as a % of Revenue	Production Costs / Revenue
Exploration Costs as a % of Revenue	Exploration Costs / Revenue

For more information on BDO's international service offerings to the oil & gas industry, please contact one of the following practice leaders:

Charles Dewhurst, Houston
+1 713 548 0855
cdewhurst@bdo.com

Sherif Andrawes, Perth
+61 8 6382 4600
sherif.andrawes@bdo.com.au

Michael Madsen, Vancouver
+1 604 443 4732
MMadsen@bdo.ca

Scott McNaughton, London
+44 207 893 2371
scott.mcnaughton@bdo.co.uk

ACKNOWLEDGMENTS

BDO would like to thank the following individuals for their assistance with compiling and calculating the data for this study:

Tom Ramos, Senior Manager, BDO Consulting; Paul Salinas, Associate, BDO Consulting; Andrea Stevens, Senior Assurance Manager, BDO USA; Dianne Van, Corporate Finance Analyst, BDO Australia; David Fenn, Assurance Manager, BDO USA; Nick Lenderman, Assurance Manager, BDO USA; Jose Rodriguez, Assurance Manager, BDO USA; Mike Silva, Assurance Manager, BDO USA