

Economic Outlook

May 31, 2013

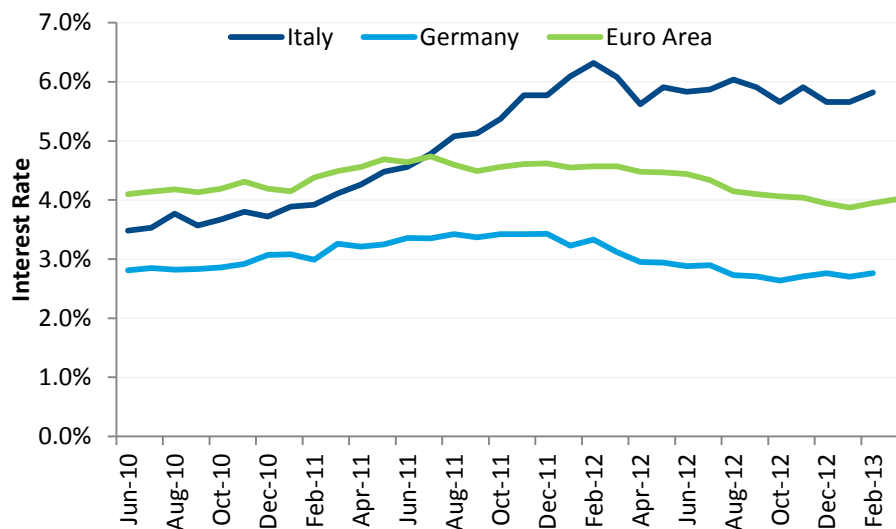
The 2013 Investment Outlook: Risks and Opportunities

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Where are the Greatest Risks?

(1) Potential Social Unrest in “Periphery” of the Euro Area. The greatest *identifiable* risk is that stagnation in the euro area economy will generate social unrest that fatally undermines the existing political consensus in favor of the common currency. One year ago, the greatest risk was the growing belief among market participants – depositors, corporate treasurers, creditors – that a euro on deposit in a Spanish, Portuguese, Italian, Irish, or Greek bank was worth less than a euro on deposit in a German bank. This perception led to massive fund outflows from “peripheral” banking systems to those banking systems in the “core.” Thanks to the political consensus in favor of the common currency, the European Central Bank (ECB) had the freedom of action to establish facilities to guard against sovereign illiquidity and instill confidence that the currency union is permanent. These actions led to a 300 basis point decline in peripheral governments’ borrowing costs and reversed the fund outflows from the periphery.

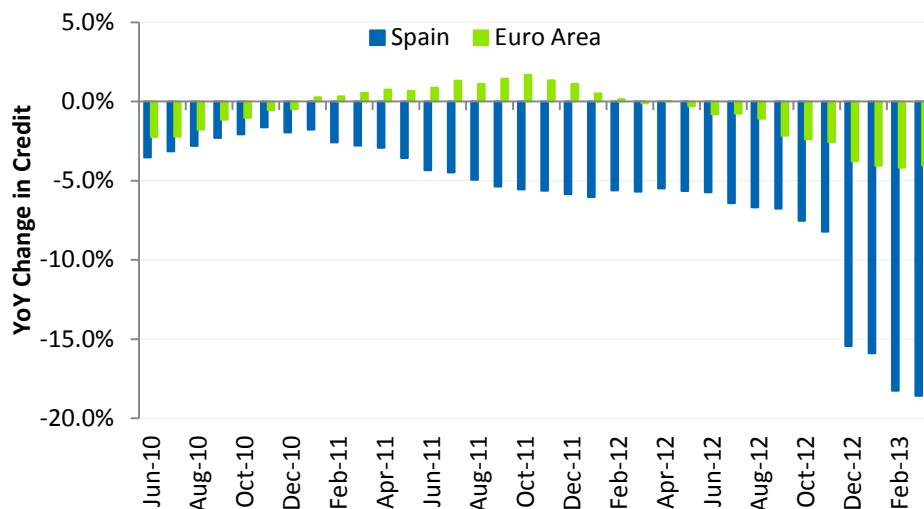
Figure 1: Average Interest Rates Paid by Unincorporated Business¹



¹ ECB data accessed through Bloomberg.

Yet, the decline in sovereign borrowing costs has not translated into observable easing in financing conditions for small and medium-sized enterprises (SMEs), which account for 67% of all employment in the European Union and 75% and 80% of total employment in Spain and Italy, respectively.² As shown in Figure 1, credit costs twice as much for Italian small businesses as for their German counterparts. In a recent earnings conference call, a prominent Spanish lender announced that interest rates on new loans to SMEs in Q1-2013 were 7.2%, up 170 basis points from the average in Q3-2012.³ Outstanding loans to the nonfinancial private sector are contracting at a 4% annual rate in the euro area as a whole and by 18% in Spain, where a 2012 bailout package has done nothing to arrest the credit crunch plaguing the economy.

Figure 2: Year/Year Change in Credit to Nonfinancial Private Sector⁴



Younger workers have been forced to bear a disproportionate share of the costs of the economic stagnation. Due to labor market regulations that sharply limit wage flexibility and protect permanent workers, Spanish unemployment stands at 27%, with youth unemployment at a staggering 55.9%.⁵ Total Italian unemployment is 11.5%, with youth unemployment over three-times higher at 38.4%. Mass joblessness among the young creates the potential for dangerous social dynamics if allowed to progress unchecked.

Policymakers in Germany and the European Commission recognize the dangers of elevated youth unemployment and have eased demands that peripheral governments meet strict budget targets. While the relaxation of “austerity” should provide some boost to domestic demand, one wishes that any spare fiscal capacity would be devoted instead to bank recapitalization and loan restructuring. The key obstacle to growth is the credit crunch plaguing the peripheral European economies, not insufficient government purchases.

(2) Central Bank Asset Price Inflation and Currency Depreciation. Since the global financial crisis first began in the summer of 2007, global central banks have announced plans to ease policy on over 500 separate occasions. Interest rate cuts and unsterilized asset purchases have the effect of driving down the foreign exchange value of the domestic currency, which leads foreign central banks to cut interest rates to limit the

² European Commission, Enterprise and Industry, *SBA Fact Sheet 2012*.

³ Bloomberg, May 6, 2013.

⁴ ECB data accessed through Bloomberg.

⁵ All unemployment data from EuroStat.

appreciation of their currencies. The cumulative effect is an uncoordinated surge in global liquidity, which increases risk-taking, gives rise to unsustainable liability structures, and raises the risk of non-monetary retaliation from trading partners (imposition of tariffs, etc.).

Purchases of longer-dated government bonds and mortgage-backed securities withdraw duration from the market, which reduces the price of interest rate risk and suppresses the “risk free” portion of the rate used to discount *all* expected future cash flows. Lower discount rates result in a higher asset price level than would prevail in the absence of central bank intervention. The eventual withdrawal of central bank stimulus could result in an abrupt re-pricing of assets that not only inflicts losses on investors but has knock-on effects on the real economy.

With inflation pressures nonexistent and economic data providing little to suggest growth is accelerating, central bank asset purchases are likely to continue. While this may be good news in the short run – Fed data (H.4 series) indicate that every 10% increase in the monetary base is associated with a 4% increase in the S&P 500 – additional easing could result in a larger eventual correction. At some point, the U.S. unemployment rate will approach the Fed target of 6.5% and stimulus will be removed. It is not obvious how market participants will react to this news, however clearly and transparently it is communicated. One could imagine a disorderly “rush for the exit,” especially in those categories of long duration, high-grade sovereign and corporate credit currently trading at all-time high prices.

Where are the Opportunities?

(1) The United States. One year ago, we argued that the United States remains the most attractive place in the world to invest thanks to the size of its economy, strength of its legal institutions, high ethical standards, and creativity and entrepreneurial spirit of its citizens. We continue to believe that today. Even with the modest growth in 2012, the U.S. economy added an additional \$600 billion to global GDP, which accounted for 41% of the \$1.4 trillion of incremental global output.⁶ This means that the U.S.’s relative contribution to global *growth* in 2012 was nearly twice as large as its share of total world GDP (about 20% on a purchasing-power parity basis). Slow growth is a global phenomenon and American champions in energy, technology, finance, media, aerospace, chemicals, manufacturing, consumer goods, business services, transportation, and other sectors proved their ability to outperform foreign rivals in this difficult environment.

Valuations have certainly increased, but generally do not show the signs of “froth” evident in other markets. Based on Fed data (B.102 series), the “fair value” of the book value of nonfinancial corporations in the U.S. as of December 31, 2012 was consistent with an S&P 500 of 1548, which was 8% above the year-end S&P Index value of 1426. Most of the increase in stock prices in 2013 is attributable to the natural reversion to fair value. As of the end of April 2013, the average trailing twelve month Ebitda multiple on the S&P 500 was at its ten-year moving average of 9.1x. There are also significant cross-sectional disparities in valuations that suggest investors are well-compensated for risk. Cyclically sensitive earnings streams like those of capital goods manufacturers are valued 15% below their 10-year moving average, while dividend-paying stocks in low-volatility industries are at or near all-time high valuations.⁷

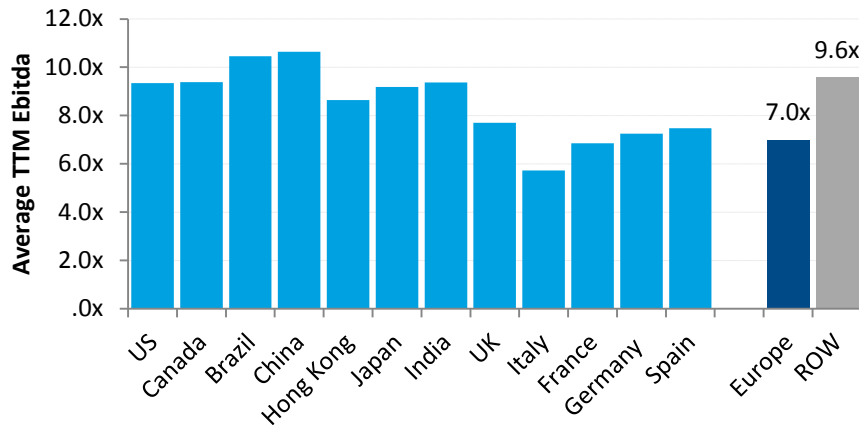
(2) Euro Area Nonbank Credit and Corporate Private Equity. Banking system dysfunction has created opportunities for nonbank lenders in Europe. The 7.2% interest rates on new loans to SMEs in Spain are 600 basis points more than the effective yield on euro-denominated AAA financial credit.⁸ Net interest income of this magnitude has the potential to contribute to large internal rates of return (IRR) for the equity holders of nonbank lenders.

⁶ IMF, 2013 WEO.

⁷ S&P Capital IQ

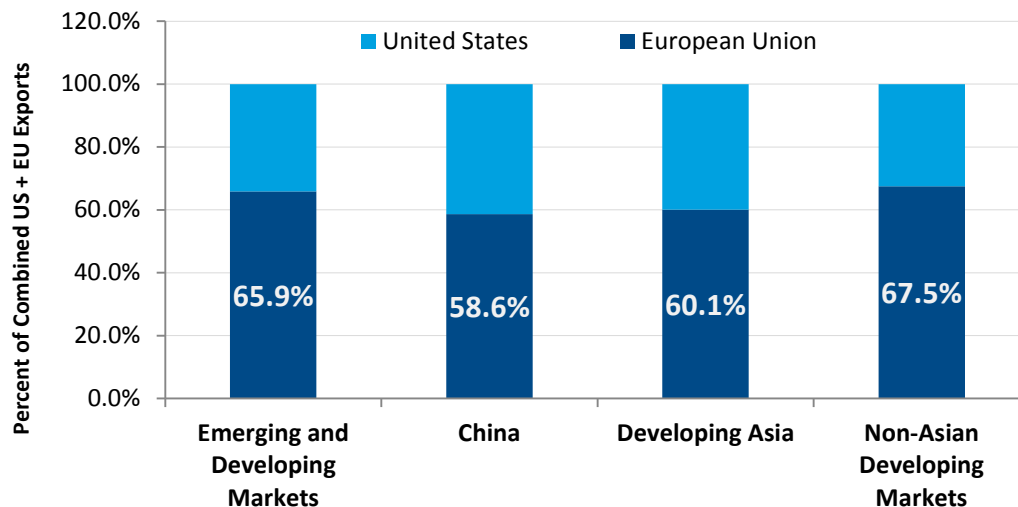
⁸ The effective yield on the Bank of America Merrill Lynch, EB10 Index has averaged 1.2% in 2013.

Figure 3: Average TTM Ebitda Multiples⁹



We believe the credit crunch has also increased the attractiveness of European corporate private equity for three reasons. First, concern about Europe has led to pervasive price discounts relative to the rest of the world, as shown in Figure 3. An Ebitda multiple of 7.0x corresponds to an annual pre-tax return on capital of 14.3%, about 4% per year larger than the 10.4% return implied by a 9.6x multiple. Corporate assets in Europe are priced for something much worse than stagnation, which provides a large margin of safety. Second, private equity funds serve an important screening role for lenders in Europe’s bank-centric financial system and this function has grown in significance due to the credit crunch. Academic research finds that businesses previously unable to access bank credit are able to “take advantage of unexploited growth opportunities” by partnering with a reputable private equity sponsor. By serving as the residual claimant, private equity sponsors “make their portfolio firms more credible borrowers” which increases access to credit and improves the terms.¹⁰

Figure 4: Relative Export Market Share, U.S. and European Union, 2012¹¹



⁹ S&P Capital IQ and Bloomberg.

¹⁰ Boucly, Sraer, and Thesmar (2011), *Journal of Financial Economics* 102 (2011) 432–453.

¹¹ IMF Direction of Trade Statistics.

Third, as shown in Figure 4, European businesses export far more to emerging and developing markets than their U.S. counterparts. Europe's relative market share ranges from 67.5% in non-Asian developing markets to 58.6% in China. For European industries like luxury goods, automotives, and precision equipment, sales in emerging markets account for the bulk of sales and earnings growth. Despite being insulated from stagnant domestic demand, these export-oriented businesses often share the same low valuations with other European corporates.

(3) Foreign Exchange-Hedged Japanese Equities. The three-pronged reflation strategy dubbed "Abenomics" has caused the Nikkei 225 Index to increase by 62% since November 2013. Yet, the magnitude of the monetary policy portion of the program – roughly 2.3x larger than the Fed's \$85 billion monthly purchases as a share of GDP for a significantly longer period – and idled corporate financial balances (5% of GDP, annually) are both so large that the Japanese asset price level could double from here. Implicit to Abenomics is the assumption that the yen will be a "one-way" (downward) bet to reduce the foreign exchange risk of financial institutions with yen-denominated liabilities and encourage outward portfolio flows. For this reason, institutions with dollar-denominated liabilities interested in investing in Japan should hedge yen exposure to ensure the expected returns are not eroded by continued dollar appreciation.

Where is the Best Risk-Adjusted Return?

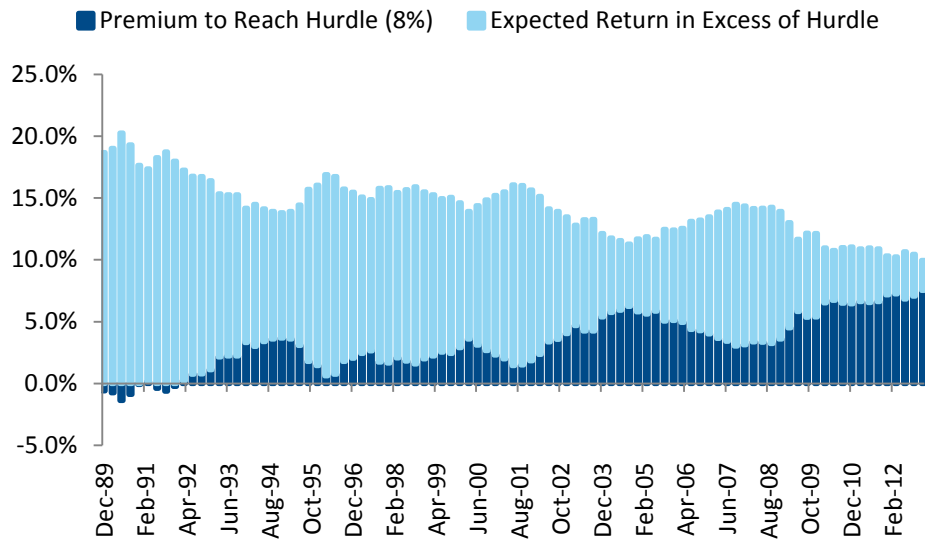
(1) U.S. Private Equity. Risk-adjusted returns cannot be measured independently from the relevant investment horizon. An asset used to fund a liability due in 12 months is likely to have markedly different liquidity, income, and capital appreciation characteristics than an asset used to fund a liability due in 12 years. Risk is contextual; the liquidity risk unacceptable to the investor with the 12 month horizon can be pure "alpha" (outperformance) to the 12-year investor because transitory liquidity fluctuations are less meaningful over longer horizons.¹² For longer-term investors with defined liabilities, the most salient risk is the probability of a shortfall in the terminal value of the portfolio relative to the fixed liability. For these investors, U.S. private equity is likely to offer the best risk-adjusted returns available. We believe the U.S. remains the most attractive place to invest for reasons mentioned previously. Accessing the U.S. through private equity is especially attractive because record low interest rates create two gaps especially favorable to investors: (1) the 8% preferred return is at an all-time high relative to the equivalent duration risk-free interest rate; and (2) portfolio companies' cash flow per dollar of invested capital is at an all-time high relative to debt service costs (Figure 6).

The value of LPs' preferred return has increased dramatically as interest rates have declined. The typical private equity investment has a duration of approximately three years. When the 3-year Treasury note yielded 8% in the late-1980s, a private equity fund could reach the hurdle without generating any premium over the equivalent-duration risk-free rate. Conversely, with the three-year Treasury yield at 35 basis points, a private equity fund must generate annualized excess returns of 7.65% just to meet this hurdle. As shown in Figure 5, the preferred return captures a larger share of expected returns than ever before, which increases the LP share of private equity's outperformance relative to other asset classes.¹³

¹² Kamara et al. (2012), "Horizon Pricing." Working Paper.

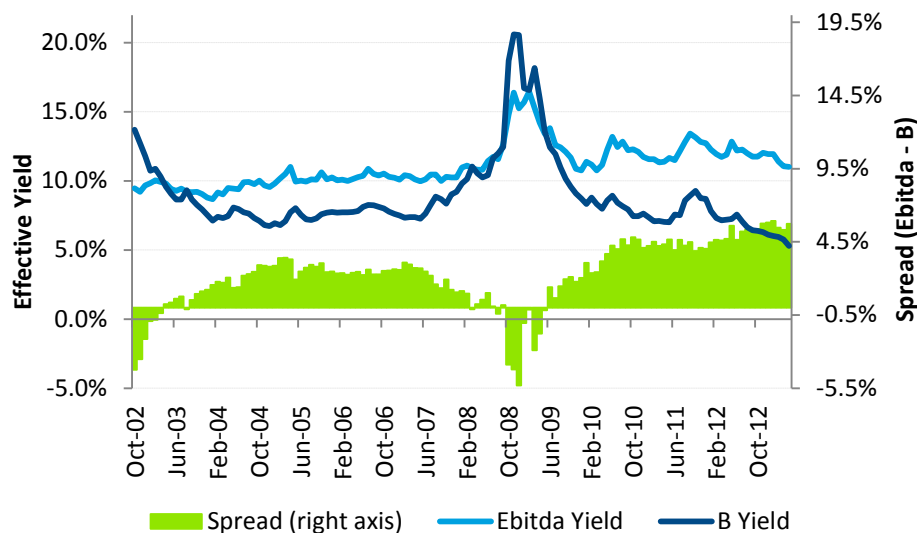
¹³ According to Cambridge Associates, from 1988 to 2012 the pooled net excess return on U.S. buyouts has averaged 9.5% per year.

Figure 5: Expected Returns Above and Below Preferred Return¹⁴



While corporate asset prices are near historic averages relative to Ebitda, liabilities issued against these assets are generally carrying record low yields. Today, creditors demand a smaller share of corporate cash flow than ever before, as measured by the spread between the Ebitda yield (TTM Ebitda as a percentage of enterprise value) and the effective yield on B-rated corporate credit. As shown in Figure 6, this spread has averaged about 224 basis points over the past 10 years, with Ebitda yields of 11% and B yields of 8.8%, on average. Today, the spread is 575 basis points, or 2.6x the historic average. With a 3x gross leverage ratio, this spread translates to an Ebitda yield to common equity holders of 22.7%.¹⁵

Figure 6: Ebitda Yields Relative to the Effective Yields on B-Rated Credit¹⁶



¹⁴ S&P Capital IQ.

¹⁵ The Ebitda yield to common equity holders is equal to the effective yield on liabilities plus the Ebitda-liability yield spread times the gross leverage ratio (enterprise value-to-common equity).

¹⁶ S&P Capital IQ.

What Areas Look Most Promising for Tomorrow?

(1) Retail Sales in Emerging Economies. Household consumption expenditures in emerging and developing economies are expected to reach \$30 trillion by 2025, a 150% cumulative growth rate (6.3% per year).¹⁷ Growth at this pace is both a blessing and a curse, as it can seduce investors into overpaying for assets or mistaking rapid growth as an investment thesis. Over the three years ending April 30, 2013, the MSCI World Index of stocks in developed economies *outperformed* the MSCI Emerging Markets Index by 21% on a cumulative basis, or by 6.6% per year. Returns were significantly higher in advanced economies despite much slower average economic growth of 1.95% per year relative to a 6.35% average in emerging and developing economies between 2010 and 2012.

This experience emphasizes the extent to which returns depend on entry multiples, investment selection, and “geographic arbitrage” opportunities. High multiples in emerging market stocks often depend on the use of dividend discount models that assume constant growth rates.¹⁸ These infinite horizon models overweight cash flows received in the distant future and ignore risks to the growth forecast. For finite investment horizons, returns will depend as heavily on cyclical variation in emerging market multiples as growth rates. More importantly, in many cases the best “emerging market” companies are likely to be exporters based in Europe or the U.S. where multiples are much lower.

While the composition of emerging market household spending will differ across economies based on their stage of economic development, much of the increase will come from higher quality goods rather than increases in the quantity of goods consumed. Increases in quality and brand consciousness naturally lead to import substitution and declines in domestic market share, especially for economies with wide income disparities. Empirical research documents that the higher a country’s income level and more unequal the allocation of that income, the higher that country’s relative imports of luxury goods.¹⁹ Income inequality in virtually all emerging economies exceeds the developed country average, with inequality increasing from already high levels in China, India, South Africa, Argentina, and Russia between 1993 and 2008.²⁰

(2) Energy-Intensive Industrial Activities (Especially in the U.S.) At \$4.20 per million BTU, natural gas is priced at a 75% discount to its energy content equivalence.²¹ Cheap energy increases the expected returns on investments in activities most dependent on energy as an input. Energy accounts for between 60% and 70% of the total costs of chemicals and petrochemicals manufacturers, who use fossil fuels as feedstocks. Energy accounts for about 30% of the total cost of primary aluminum manufacturing; more than 20% of the cost of producing cement, glass, brick, and ceramics; and about 20% of the cost of steel and iron manufacturing. Natural gas currently meets a low percentage of these industries’ energy requirements in the U.S.; only 27% in the case of steel manufacturers, for example, and about 35% of all industrial fuel use.²²

In many cases, the present value of the savings generated by investments to switch facilities to natural gas is likely to be a multiple of the cost of the investment. Data suggest cheap natural gas will also increase the share of GDP contributed by energy-intensive industries over time. For plausible price elasticities, the 50% decline in the price of natural gas relative to the 2005-2008 average could result in a doubling or tripling of the growth rate of output in heavy manufacturing, chemicals, paper, cement, and refining. Natural gas is

¹⁷ McKinsey, “Winning the \$30 trillion decathlon: Going for Gold in Emerging Markets,” August 2012.

¹⁸ C.f. O’Neill, J. (2011), “Linking GDP Growth and Equity Returns,” Goldman Sachs Asset Management.

¹⁹ Bohman, H. and Nilsson, D. (2006). “Income Inequality as a Determinant of Trade Flows,” CESIS Working Paper No. 73.

²⁰ OECD, “Special Focus: Inequality in Emerging Economies,” *Divided We Stand: Why Inequality Keeps Rising*, 2011.

²¹ WTI crude is priced at \$96 and contains 5.88 million BTU.

²² All data from Energy Information Agency.

also likely to increase its share of the industrial transportation market as a fuel for heavy-duty freight transportation (trucking).

The decline in energy prices has thus far been a U.S.-centric phenomenon due to the nation's lead in unconventional natural gas recovery and the enormous fixed investment in liquefied natural gas (LNG) required to integrate the global natural gas market. Over the near term, this should increase the profitability of energy-intensive industrials in the U.S. and lead to more inward foreign direct investment (FDI) among global operators in these sectors.

Where Should Investors Worry About Potential Surprises?

(1) Energy and Net Oil Exporters. Nearly forty years of investments in energy-efficiency have substantially reduced the relative demand for energy. At the same time, the huge energy exploration and development boom that started in 2003 and accelerated after 2010 has dramatically increased the potential supply of oil and gas. If these trends persist, it is possible to imagine a situation where the growth of oil-output capacity far outstrips demand, which would place downward pressure on the market-clearing price of oil and reduce government receipts and economic growth in oil exporting economies.

Between 1973 and 2003, energy intensity – the ratio of energy consumption to GDP – declined by 47% and over four-fifths of this decrease was attributable to increases in energy efficiency.²³ Even with faster growth in energy-intensive industries, energy intensity is expected to continue to decline by 1% to 2% per year in the U.S. for the foreseeable future, with large declines in other advanced economies. Public policy also looms large, as regulation of vehicle fuel efficiency requirements, building codes, appliance efficiency standards, and taxes (both taxes on energy and credits for efficiency) remain in place and are likely to expand given concerns about global climate change. Empirical evidence also suggests that aging will reduce energy consumption growth in advanced economies.²⁴

On the other side of the equation is the \$1.5 trillion invested globally in energy exploration, development, and production since 2010.²⁵ This investment has yielded an estimated 50 million barrel per day increase in combined conventional oil, shale oil, tight oil, and natural gas liquid capacity. The share of this new capacity that will actually be produced is unclear, as it will depend on the relationship between the market price of oil and the marginal cost of oil production in these new fields. Yet, the bulk of already recoverable resources would appear to be profitable with \$60 oil.²⁶ This price, which represents a 20% discount to the average of the past five years, could leave a large number of marginal projects underwater and dramatically reduce the foreign currency earnings of net oil exporters.

(2) Investments Linked to Rapid Growth in China. Household consumption growth by itself would appear to establish a floor on China's annual growth rate of about 4% in the near-to-medium term. Investments whose ultimate return assumptions depend on China growing at twice this rate – including those linked to resource extraction and transportation in other countries – are likely to disappoint. The costs of achieving growth of that pace are quickly becoming prohibitively expensive in terms of the risks to financial stability. Prior to the global financial crisis, net exports contributed about 10% to Chinese GDP, while fixed investment accounted for roughly 41%. Following the Lehman Brothers bankruptcy, external demand collapsed, causing China's current account balance to decline by nearly 6% of GDP. Rather than allow economic growth to halve from the prior trend of nearly 10%, Chinese authorities embraced massive debt-financed infrastructure

²³ Metcalf (2008), "An Empirical Analysis of Energy Intensity and Its Determinants at the State Level," *The Energy Journal*, Vol. 29, No. 3.

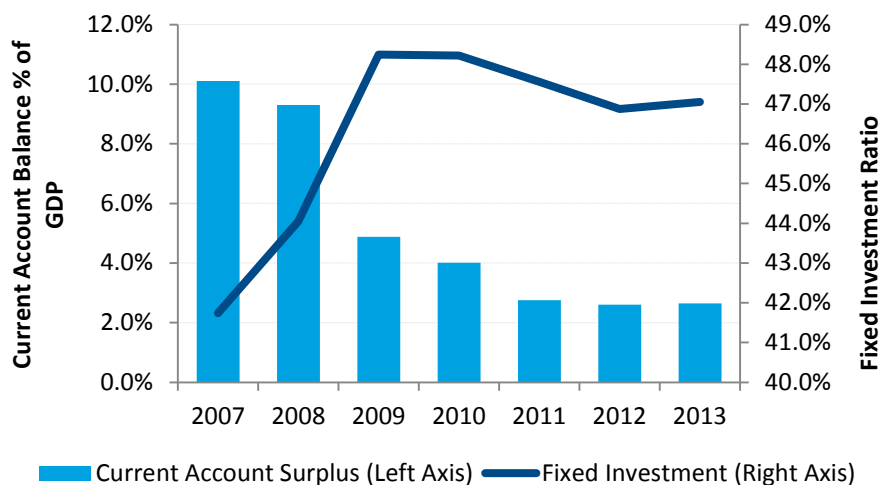
²⁴ York, R. (2007), "Demographic trends and energy consumption in European Union Nations, 1960–2025," *Social Science Research*.

²⁵ Maugeri, L. (2012), "Oil: The Next Revolution," Harvard Kennedy School Discussion Paper.

²⁶ Maugeri (2012).

spending. Fixed investment increased by 7% of GDP, almost precisely offsetting the decline in external demand (see Figure 7).

Figure 7: Shifts in Chinese External Demand and Fixed Investment²⁷



While this debt-financed investment boom was likely designed to serve as a temporary stopgap until external demand rebounded, the global economy has not recovered as sharply from the Great Recession as was hoped. To achieve target growth rates, China’s fixed investment rate has remained elevated, leading to an explosion in credit aggregates. Between January 2009 and March 2013, “total social financing” – the widest gauge of *gross* credit issuance – totaled RMB62 trillion on a *gross basis* (119% of GDP).²⁸ The rapid increase in credit led Fitch to downgrade China’s long-term credit rating to AA-.²⁹ Fitch estimates that total credit in the economy increased by 73% of GDP *on net* between 2009 and 2012, with 45% of the new lending coming from “shadow banking” sector rather than traditional intermediation. If many of the infrastructure projects launched in 2009-2010 were of dubious economic value, the bad loan problem could be extremely large. Fitch estimates that obligations of local government finance vehicles stood at RMB12.9 trillion at the end of 2012 (25.1% of GDP).

Perhaps a bigger concern is that the elasticity of GDP to credit growth has fallen precipitously. It now takes about three yuan of net new credit to generate one additional yuan of real GDP. With outstanding credit equal to nearly 200% of GDP, net debt has to grow at just an 11.5% annual rate to grow three times faster than an economy expanding at 7.7% (the year/year growth rate for Q1-2013). This is almost precisely the World Bank’s estimate for trend credit growth of 11.6% and slightly below the M2 growth rate of 15.7% for the 12 months ending in March 2013.³⁰ The efficiency of fixed investment has shown a similar decline: in 2007, each yuan invested generated 0.34 yuan of GDP; by 2012, the GDP yield had fallen to 0.156.³¹

Economic and market views and forecasts reflect our judgment as of the date of this presentation and are subject to change without notice. In particular, forecasts are estimated based on assumptions, and may change materially as economic and market conditions change. The Carlyle Group has no obligation to provide updates or changes to these forecasts.

²⁷ S&P Capital IQ.

²⁸ People’s Bank of China Data accessed through Bloomberg.

²⁹ “Fitch Affirms China’s FC IDR at ‘A+’; Downgrades LC IDR to ‘A+,’” *Fitch Ratings*, April 9, 2013.

³⁰ People’s Bank of China.

³¹ IMF, 2013 WEO.

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