

SECOND QUARTER 2012

POINT *of* VIEW

OUR PERSPECTIVE ON ISSUES AFFECTING GLOBAL FINANCIAL MARKETS

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Among the hidden elements of the energy world lie Master Limited Partnerships (MLPs), an instrumental, though frequently unnoticed piece in the US energy puzzle.

Scrambled Eggs *and* the Eurosystem

The euro is like a plate of scrambled eggs. Let us explain.

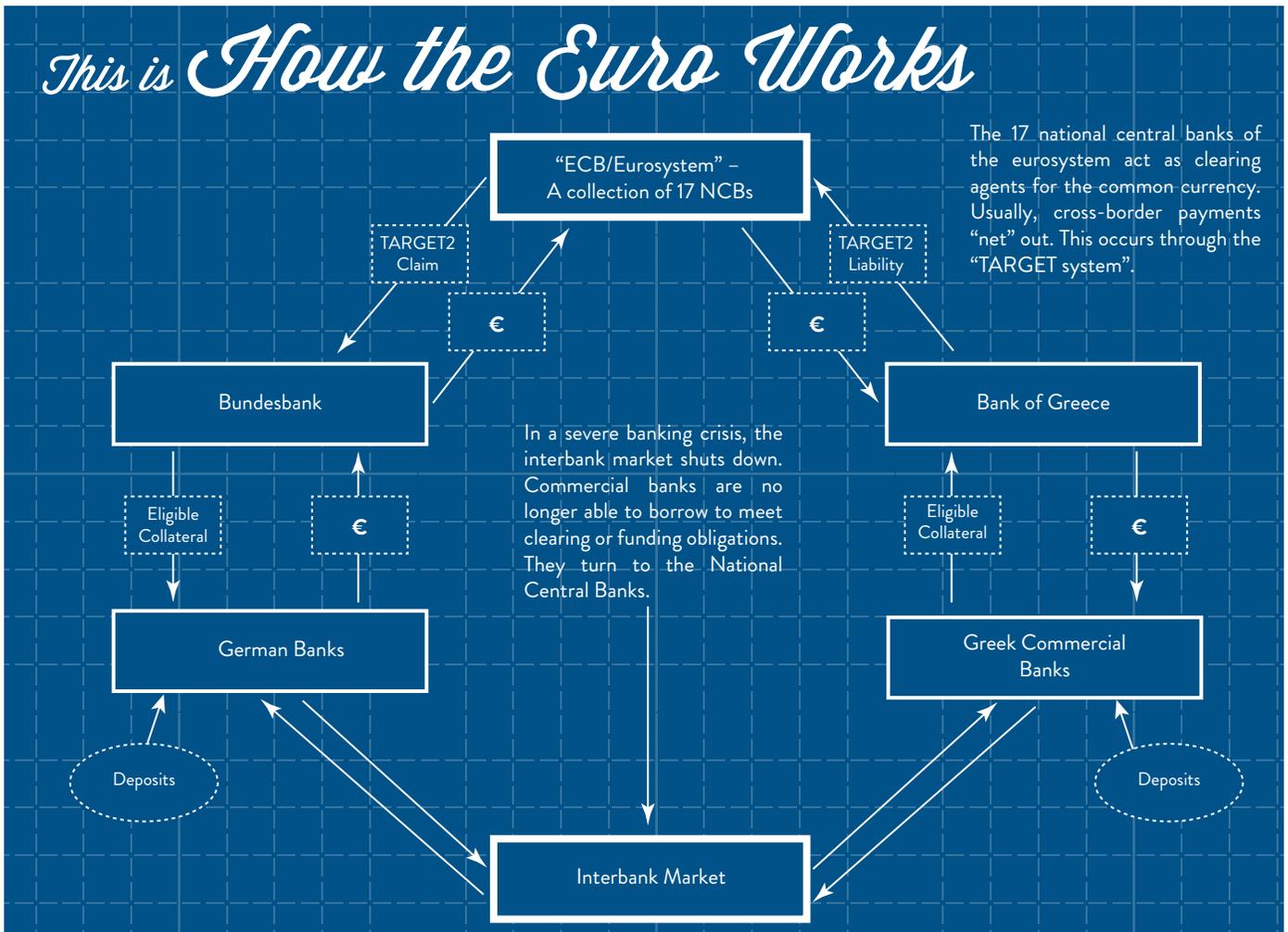
Once scrambled, we find it impossible to unscramble eggs. Physicists call this process entropy. It is the idea that some processes are irreversible. The euro zone's common currency, the euro, is a bit like that.

And for this reason—despite all the headlines about emergency summits, bank runs, capital flight and rumored country exits from the currency union—the eurosystem remains together. A brief tour of the monetary system blueprint may help elucidate the true nature of the problems faced by the euro area.

IMAGINE THERE IS NO EURO (IT IS EASY IF YOU TRY)

To begin, let us pose a counterfactual situation: imagine the euro never existed. Now, in our world without the euro, imagine that concerns regarding the solvency of Greek banks boil to the surface. Greek depositors and foreign investors alike “jog” to the banks to withdraw funds or initiate electronic transfers across borders.

At first, this process is smooth and orderly. The central bank of Greece maintains a stock of foreign exchange (FX) reserves to facilitate cross-border transfers because depositors and investors want deutschmarks or dollars, not drachmas. But, say the “jog” turns into a “run.” What then?



In that case, one of two things occurs. First, if Greece maintains a currency peg to the German deutschmark, a bank run will deplete the central bank's FX reserves (the central bank of Greece can not "print deutschmarks"). Instead of honoring the hypothetical 5:1 official exchange rate (drachmas to deutschmarks), the central bank can now manage only a 10:1 exchange rate. In market jargon, the central bank "devalues" or "depreciates" or "depegs" the domestic currency. In reality, market forces overwhelm the currency regime and the central bank faces up to actual market levels.

Or, in the second case, if Greece already maintains a floating rate currency regime, the drachma weakens on the foreign exchange market as everyone sells drachmas to buy deutschmarks. It is important to note that in this arrangement, both sides (e.g. Greece and Germany) lose—foreign investors take a hit as the value of the currency in which they have invested declines.

Here is the problem: if depositors and investors want to sell the drachma for dollars or deutschmarks, the Greek central bank needs a stock of FX reserves—and it may run out or revalue its own currency.

DID YOU KNOW?

The TARGET2 system replaced its predecessor system, Target, in 2007. The original system debuted in 1999.

Facts:

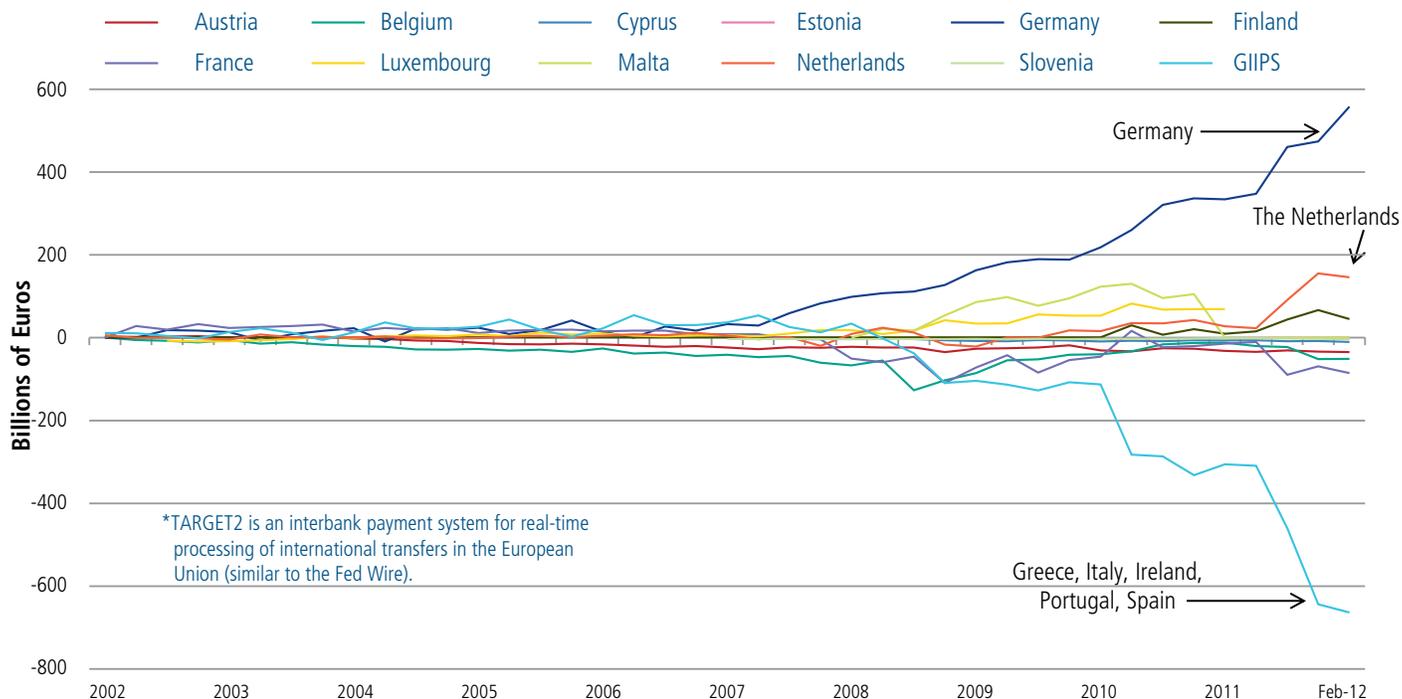
- Handles 91% of all large-value euro payments
- Nearly 350,000 average daily transactions in 2011, with average daily volume of EUR2.4 trillion, which is approximately 25% of euro area gross domestic product (GDP)
- ECB acts as the central counterparty to each transaction (i.e. the ECB is the buyer for every seller and the seller for every buyer)
- At the end of each day, each NCB has a net position vis-à-vis the ECB, not against other national central banks across Europe

Source: European Central Bank

THE BLUEPRINT OF THE EUROSYSTEM

A monetary union solves the foreign exchange reserves "problem." How? In short, by eliminating the need for FX reserves.

fig. 1 TARGET2* BALANCES REFLECT CAPITAL FLIGHT



Source: International Financial Statistics; Sinn and Wollmershaeuser, *The ECB Rescue Facility Working Paper No. 17626*

“THE EUROSISTEM FACILITATES A TRANSFER OF CREDIT RISK FROM THE PRIVATE SECTOR TO THE BALANCE SHEET OF THE EUROSISTEM”

In effect, the “euro” is not just the pretty piece of paper we hold in our wallets; *it is an agreement among 17 national central banks (NCBs) to clear payments at par in euros.* The eurosystem stands ready to honor any money or deposit in any eurozone country as if it were one country.

How does it work? On any given day, money is flowing two-ways, facilitated in real-time by the Trans-European Automated Real-time Gross Settlement Express Transfer System – TARGET2. If a Greek consumer writes a check for a German BMW, the check deposited in a German bank is cleared through the eurosystem. Then, the car dealer’s account is credited by the German central bank

and funds are deducted from the Greek banks balance at the Greek central bank (See “This Is How the Euro Works” on the previous page).

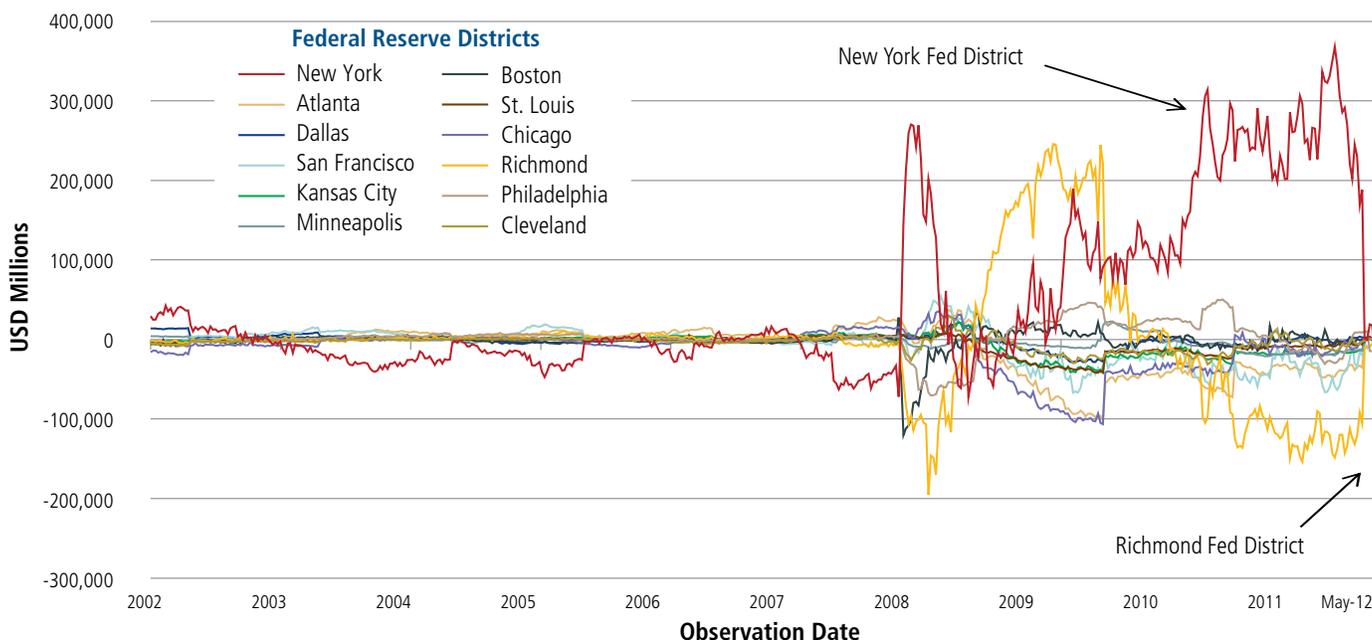
What if the Greek bank has insufficient funds? As illustrated above, banks meet any shortfalls by holding a stock of settlement balances at the ECB, borrowing settlement balances in the private interbank market or borrowing directly from the ECB. Banks within each country access funding from their respective national central banks (NCBs) in the form of the longer-term refinancing operations (LTROs) and the Main Refinancing Operations (MROs).

EUROSISTEM AS THE “MARKET MAKER OF LAST RESORT”

This hypothetical is reality today. By mid-2012, banks were borrowing EUR 1.4 trillion from the ECB in MROs & LTROs. In short, the crisis is a breakdown in the cross border interbank market.

Despite the best intentions of the eurosistem architects to eliminate the need to worry about balance of payments and FX problems, capital flight has followed the bust anyway. The pressures simply show up in different ways.

fig. 2 UNLIKE THE EUROSISTEM, INTERDISTRICT IMBALANCES IN THE FEDERAL RESERVE SYSTEM SETTLE ON ANNUAL BASIS



Source: Federal Reserve

That means that instead of running down foreign exchange reserves to finance cross border capital flight, the central bank experiencing outflows accrues liabilities to the rest of eurosystem. Instead of seeing a depreciation of the exchange rate between, say, the Greek drachma and the German deutschmark, we see a rise in TARGET2 imbalances (See Figure 1). The eurosystem shoulders the liquidity problem.

Under the arrangement explained above, the linchpin in the entire system is the “collateral” posted by banks to their respective NCBs¹. These much-talked about TARGET2 claims (think IOUs) are not collateralized but they do require payment at the refinance rate (currently 0.75%). The ECB collects the interest payment from the Greek central bank and passes it along to the German central bank. In effect, each deficit NCB has a claim or liability to the eurosystem as a whole.

HOW TO UNSCRAMBLE: THE CHALLENGES TO EXIT

It is important to note that both Greece and Germany benefit from this currency arrangement. How? The eurosystem facilitates a transfer of credit risk from the private sector (interbank market) to the balance sheet of the eurosystem (the NCBs). Instead of a German investor or bank facing losses on a Greek bank account, the eurosystem now stands in the middle accepting the credit risk and providing liquidity as the market maker of last resort. Because TARGET2 claims are ultimately backed by the eurosystem balance sheet, the collateral posted for MRO and LTRO is important. The willingness of the eurosystem to absorb this collateral is the “survival constraint” of the eurosystem itself.

This also helps answer the oft-asked question: why has not Greece already abandoned the euro or been ushered to the door? Despite the media hype, both sides benefit from the arrangement. Thinking back to our counterfactual example where there was *no* monetary union, Germans would have experienced losses on cross border investments and deposits, while Greek currency holders and depositors would have experienced a decline in the value of their holdings.

As a result, both parties are stuck, leaving no easy exit for Greece or any member of the currency union. None of this is to say that it can not happen—that Greece can not leave the euro. Of course, the technological or me-

DID YOU KNOW: INTERDISTRICT SETTLEMENT BALANCES

An astute reader may wonder, does the US Federal Reserve System work in a similar fashion to the eurosystem (see Figure 2)? Do transfers between, say, the New York Federal Reserve District and the San Francisco Federal Reserve District net out. Yes, but with two key differences.

First, every April the Federal Reserve System “settles” clearing balances with a transfer of US Treasury securities (in the “old days” it was conducted with a transfer of gold certificates). Second, the Federal Reserve System regional reserve banks are owned by banks with equity capital, NOT by, say, the State of California or the State of New York. This is a critical consideration, since the State of California’s budget deficit is not a material economic issue for the banking system nor is the state of the banks in California a direct problem for the State of California’s finances. Meanwhile, in Spain the sovereign is intertwined with the banking system.

chanical requirement of printing new drachmas (e.g., printing presses) is not the issue. The issue is acceptability. How does a newly-issued, fiat currency obtain purchasing power? Money does not attain value because the sovereign says it should be valued. Money is an evolutionary product. It evolved to have purchasing power over time. Historically, in order to launch a new fiat currency, three critical components were required³:

- a) The new currency would be pegged at a fixed-rate to an existing, stable, widely held money (e.g., the dollar, the euro, gold or silver)
- b) The State would demand payment of taxes in only that currency (creating artificial demand),
- c) The State would attempt to curtail the use of competing currencies (eliminate competing options and in this case try to prevent the euro from circulating)

Further, the avenue of currency devaluation put forth by academic economists is far too simplistic, particularly for the case of Greece.² In the best case scenario for currency devaluation export activity rises (a devalued currency means foreigners can buy more of your goods and services). At the same time, though, the weaker curren-

cy results in a decline in purchasing power for currency holders, particularly in a small, more imported-oriented economy. A new drachma would likely be pegged to the euro—so everyone would know the euro-price of goods and services, wages and costs.

The incentives for Greece to leave are unclear, the challenges underestimated.

STUCK—FOR NOW

The advent of the euro “solved” the foreign exchange reserves problem by creating a new one: the agreement to settle at par in a new, common currency. Now, instead of worries about depleting FX reserves during a run, the essential concern for the euro banking system (in particular the NCBs) is the availability and acceptance of euro-denominated collateral by the eurosystem. Unscrambling this system is difficult as banks in much of the euro area remain dependent on central bank borrowing to fund themselves. Further, re-launching a former domestic fiat currency is a challenge and may not provide the economic boost ascribed by many economic prophets.

In reality though, the eurosystem is not nearly as “irreversible” a process as a plate of scrambled eggs, but understanding the unique, intricate nature of the eurosystem goes a long way to explaining why it is still together in the face of unprecedented challenges.

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Dissecting the Unemployment Rate

“Unemployment is like a headache or a high temperature -- unpleasant and exhausting but not carrying in itself any explanation of its cause.”

– William Henry Beveridge, *British Economist, 1879-1963*

All market participants know the frenzy that gathers at 8:30 a.m. EST on the first Friday of every month as the Bureau of Labor Statistics (BLS) releases the *Employment Situation* report. Immediately, the latest unemployment rate “number” spits out into the marketplace. Commentators and analysts alike digest and describe the truth, each as they saw it.

Claims to knowing the true meaning of the jobs report, hubristic at best, obscure the many statistical nuances and external influences that factor into the unemployment rate calculation. An evaluation of the methodological and theoretical underpinnings of this pivotal monthly report makes evident the two sides of the unemployment rate: the supply of labor and the demand for labor. Each

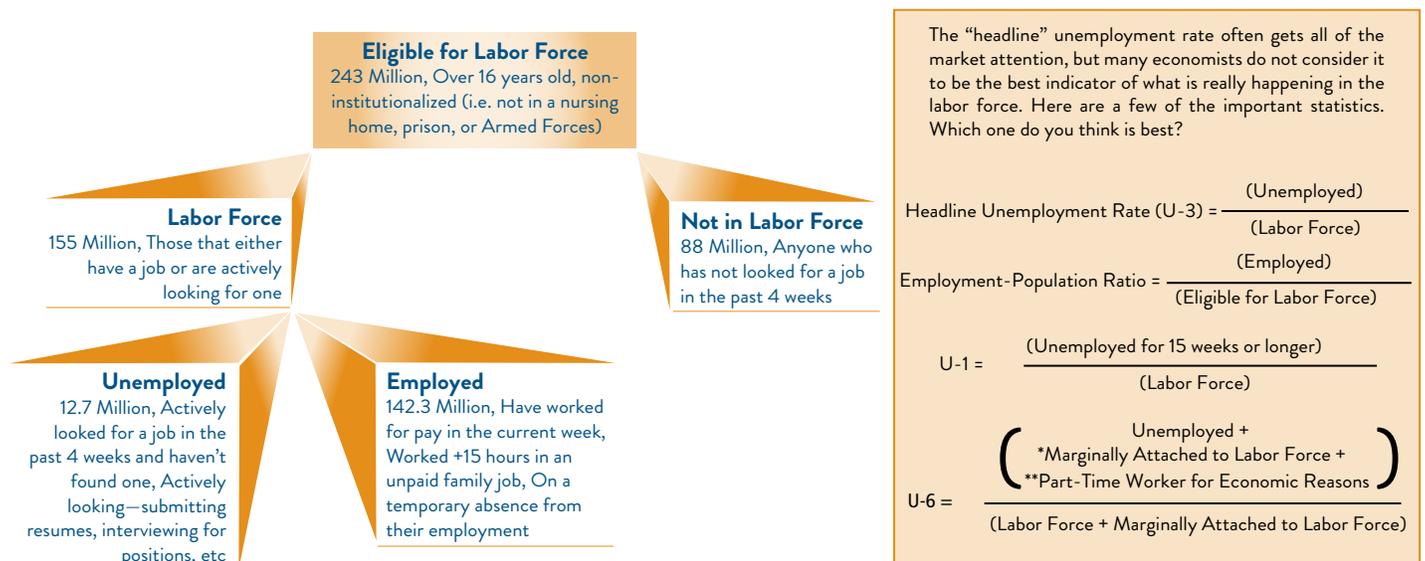
component merits individual consideration—possibly more consideration than the sum of their parts—in any interpretation of the unemployment data.

THE DEVIL IS IN THE DETAILS: STATISTICAL METHODOLOGY

Since the Great Depression, the US government has conducted two surveys to calculate labor force statistics: the Establishment Survey and the Household Survey. The former surveys 144,000 businesses that collectively account for nearly 1/3 of the nonfarm payroll employees in the United States. From this data, the Bureau of Labor Statistics (BLS) gathers information on jobs created, employment sectors, hours worked, and wages.

The market places much faith in the official BLS number, though incredibly, the standard 90% confidence interval for total nonfarm payroll is +/- 100,000. For instance, suppose in a particular survey, the BLS reports that total payroll increased by 50,000 month to month. This means, for the entire US population, there is a 90% confidence

fig. 3 Labor Force Breakdown



SOURCE: Bureau of Labor Statistics
 * Marginally Attached to Labor Force—Person is no longer actively searching for work, but would like a job and have searched in the past year.
 ** Part-Time Economic Worker—Person is working part-time because they can't find full-time employment.

fig. 4 INTERNATIONAL COMPARISON TABLE

Country	US Adjusted (%)	Un-Adjusted (%)	Difference
US	8.9	8.9	—
Canada	6.5	7.5	-1.0
Japan	4.3	4.6	-0.3
France	9.3	9.7	-0.4
Germany	6.0	5.9	0.1
Italy	8.5	8.4	0.1
Spain*	21.8	21.7	0.1
United Kingdom	8.1	8.0	0.1

Source: Bureau of Labor Statistics

*Data as of 2011.

** Data as of June 2012

Today we hear loud alarm bells reporting a 24.1%** unemployment rate in Spain. For many, the logical comparison lies with the US during the Great Depression when the unemployment rate reached 25% in 1933. However, to make intelligible the comparative impulse, we must note differences in the statistical methodologies used in different countries to collect unemployment data.

Most countries currently use a survey-based system very similar to the one in the United States, with a few idiosyncratic definitions that can skew international labor force comparisons. For example, most of the euro area defines “working-age” as 15 or over compared to 16 in the United States, an important difference when one considers the extremely high unemployment rate of 15-year olds.

Europe also considers looking through newspaper ads as “actively searching” for work, making a person unemployed when in the US that same person would be considered not in the labor force. For these reasons, the BLS annually produces “US-adjusted” rates that estimate other countries’ unemployment rates using the standards of the US Household Survey. The table below demonstrates the adjusted unemployment rates for other countries. Keep in mind that even a 1% change in Canada still accounts for nearly 200,000 jobs.

interval ranging from -50,000 to 150,000—preliminary employment reports ought to be received with this expansive range in mind.

In the household survey, the BLS studies 60,000 households, chosen to be representative of the US population in terms of sex, ethnicity, and age. A particular household will be surveyed for four months in a row, followed by an eight month gap, concluded with another four months of surveys. The BLS conducts their surveys in person or over the phone, and using their responses, defines each person as employed, unemployed, or not in the labor force (see **Figure 3 below for more details on each element**). The BLS derives the unemployment rate from this survey.

THE SUPPLY SIDE OF LABOR: LABOR FORCE PARTICIPATION, SKILLS MISMATCH AND LABOR MOBILITY

On the supply side of the labor market, the current unemployment morass takes its soggy, coiled rooting in three places: the size of the labor force, a skills mismatch in the workforce, and geographic mobility.

Labor Force Participation

After reaching its post-war peak at nearly 68% in the late 1990s, labor force participation gently declined to 66% on the eve of the Great Recession. Since then it has tumbled to 63%.

Both cyclical and structural factors are at play. Cyclical factors include “the discouraged worker” problem, in which workers, not finding work, give up and leave the labor force.

Long-term structural factors compel workers to leave the labor force for other reasons, including retirement, disability, school, household care for family members and others. Despite the popularity of the topic, the labor force participation rate is not due to retirement. In fact, more than 30% of those falling out of the labor force fall into the “other” category. As such, these workers will likely re-enter the labor force at a later date as the economy improves.

“AFTER REACHING ITS POST-WAR PEAK AT NEARLY 68% IN THE LATE 1990s, LABOR FORCE PARTICIPATION GENTLY DECLINED TO 66% ON THE EVE OF THE GREAT RECESSION. SINCE THEN IT HAS TUMBLED TO 63%”

In fact, in the May 2012 employment report, labor force participation inched up from 63.6% to 63.8%. While this pushes up the unemployment rate (as more people re-enter the labor force looking for work), the good news is that a rising labor force participation rate usually signals an improving economy. Consequently, we cannot look at the month-to-month movements in the unemployment rate and definitively state it is “good” or “bad.”

Skills Mismatch and Labor Market Flow

Beyond labor force participation, skills mismatch is a critical problem. Plenty of workers would like to find work but lack the skills needed by employers. Interestingly enough, analysis of labor market data reveals that the rate of job loss has already fallen down to pre-recession levels, but the job-finding rate is nowhere near the its 2006 peak. In other words, few people are fired each week, but even fewer are hired! Why is that?

Research suggests that a labor mismatch may be a large part of these issues. Companies are not finding the skills they need to fill open positions. In fact, economists at the New York Fed have argued that this skills mismatch may account for up to 1.7 percentage points of the headline unemployment rate.¹

While this “occupational mismatch” is relatively insignificant for less educated laborers, it helps explain a third of the unemployment increase among highly-educated workers.

In fact, in May of 2012, the BLS reported the unemployment rate for those in “computer and mathematical occupations” (computer programmers) at 3.5%, compared to a national rate of 8.2%. The only industries with lower unemployment rates were healthcare (doctors), legal services (lawyers), and scientific researchers. The reason for this is simple: tech companies are hiring.

Especially today, technology drives business innovation. In our Information Age, new firms and new jobs spawn at rapid rates from the vast market for goods and services that the internet and electronics provide. According to a May 2012 survey of over 800 hiring managers and recruiters of IT workers, 73% said they expect to add more tech staff to their companies in the second half of 2012. Half of them said that the reason the time required to fill a position was longer was due to the “inability to find qualified professionals to fill open positions.”

Geographic Labor Mobility

The other principal supply side issue in the US labor market is geographic labor mobility. Historically, an important characteristic of the average American citizen has been her ability to pick up her things and move to another part of the country in search of a better economic opportunity. John Steinbeck’s *The Grapes of Wrath*, which depicts the Dust Bowl Migration in the 1930’s, illustrates the tremendous labor mobility that defined the American labor force in the 20th century.

That flexibility in the American workforce, however, is not quite what it once was. Internal migration statistics within the United States have been trending downward steadily since 1980. Currently, between five and six percent of Americans move across a county boundary each year, and only about 1.5% of the American population moves between two of the four census regions (Northeast, Midwest, South, and West).² Because both of these levels are the lowest in the post-war period, any explanation of their causes must do so in light of this persistent thirty year trend.

One of the more popular theories suggests that the increased prevalence of homeownership has reduced labor mobility, specifically when homeowners have debt greater than the value of their house. If this is true, then the decrease in labor mobility seen in recent history has a meaningful impact on long-term unemployment, for those financially tied to a house are less likely to move in search of better employment opportunities.

THE DEMAND SIDE OF LABOR: GLOBALIZATION/ TECHNOLOGICAL INNOVATION AND GOVERNMENT POLICY

In 1978, almost 20 million Americans were employed in manufacturing. Since the mid-1980s, on average, the US manufacturing sector shed 372,000 jobs per year. Today, the manufacturing sector employs less than 12 million people. What happened? Globalization or technological innovation?

Globalization and Technology

As much as we hear about globalization, it is only one part of the story behind the shift in labor demand. Machines and technological innovation provide the rest and likely the most important factors. Robert Reich, an econ-

omist at Berkeley and labor secretary under Bill Clinton, speculates that “[the financial crisis] has given employers the excuse to do what they wanted to do but had resisted before the crisis. Many employers are substituting technology for people.”³

Today, the average factory worker produces \$180,000 worth of goods annually—three times more than the average factory worker produced in 1978. Another way of putting it: in the 1950s, each GM employee made seven cars per year. Today, each worker makes 28 cars per year—a four-fold increase.⁴ Widespread use of new technology renders many once-stable jobs obsolete. The incentive for companies to replace such positions with more efficient and cost effective (technological) substitutes is as high as ever.

With a large portion of the low-skill positions outsourced to less developed countries, a more skilled workforce must develop if we are to see long-term unemployment shrink in the more advanced economies.

Government Regulation and Competitiveness

The importance of new and innovative firms brings us to another critical component: government labor market policy exerts the largest influence on the demand for labor in advanced economies. Laws regarding unemployment benefits, union rights, hiring/firing practices, temporary contracts and others employer/employee relations severely impact the labor market efficiency of a particular country.

And this is a global phenomenon. According to the World Economic Forum’s 2011 report on global competitiveness, out of 142 countries, Spain was ranked 128, 137, and 93 in flexibility of wage determination, hiring and firing practices, and redundancy costs, respectively. These numbers directly reflect the adverse effects of long term labor market regulations.

To be more specific, until recent reform in March 2012, workers on permanent contract in Spain could receive up to 45 days’ pay per year in severance when laid off, and collective bargaining policy was such that employers had little influence over wage rates.

Spain is only one glaring example. Many other countries, especially in Europe, consistently battle unemployment rates that persist throughout the business cycle because of long-standing structural issues in labor force policy.

DID YOU KNOW: IN THE SHADOWS

One of the trickier tasks in analyzing labor force data is estimating the number of people involved in the black market. In these markets, people conduct their businesses off the books in cash, making it easy to dodge government taxes. This “shadow economy” does not solely consist of those who sell goods and services to customers in cash, but also includes employees for legal companies who pay some of their employees under the table without putting them on payroll. In Europe, the average size of these shadow economies is estimated at about 20%, with much higher proportions in some of the less-developed Eastern European countries.

In terms of labor force statistics in a nation like Spain, many economists currently believe that the shadow economy can overstate the headline unemployment rate by 5-9%. While this might be a difficult number to believe, consider that in the boom years of 2006-07 when unemployment was 8.5%, employers in Spain said that they could find no workers to hire. To put that in perspective, the UK unemployment rate peaked at 7.9% during the recession of 2008-2009. The statistics simply do not add up, but the problem is that shadow economies distort the unemployment figures. The larger a shadow economy gets, the more it can drive down the price that “legal” firms will face. This has the potential to drive tax-paying firms out of business and force their employees to either look for a new job or find work in the shadow economy.

These issues are particularly relevant given the current levels of unemployment in Europe, but the core problem is competitiveness.

The key to reducing unemployment is job creation, not the prevention of job losses. In a healthy economy, there should be and will be jobs that become obsolete (agriculture and manufacturing). As long as there is enough job creation to offset that factor, the unemployment rate will fall.

CONSEQUENCES: READING THE REPORT

Despite the animating force employment statistics have on financial markets, there is much more to the unemployment rate than greets the eye. Even when considered on its own, the variety of methodologies the BLS uses to make presentable their monthly statistics should stay the hand of even the most intrepid economist. On top of this, the data that comprise the report come from only representative samples. Surveys do not account for all US businesses, nor all US households.

For those of us outside government statistical agencies, who must work to interpret exactly what the data mean, there remain only more possibilities. Given the interpretive jousting that goes on every month, whether explicitly in the media, or implicitly in markets, there remains no doubt that the labor market is as interesting and as important as ever.

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★★★★ THE CLASH THAT DEFINED MODERN ECONOMICS ★★★★★

▣ SPECULATING FROM THE TOP DOWN ▣

“The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.”

▣ WONDERING FROM THE BOTTOM UP ▣

“The views of the intellectuals influence the politics of tomorrow...What to the contemporary observer appears as the battle of conflicting interests has indeed often been decided long before in a clash of ideas confined to a narrow circle.”

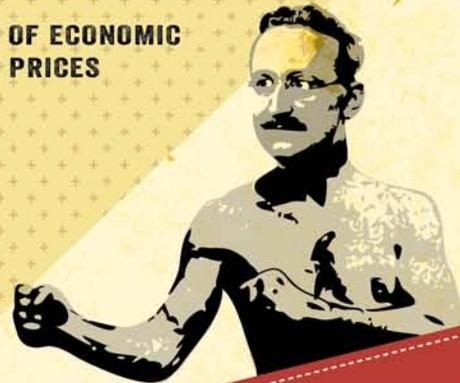
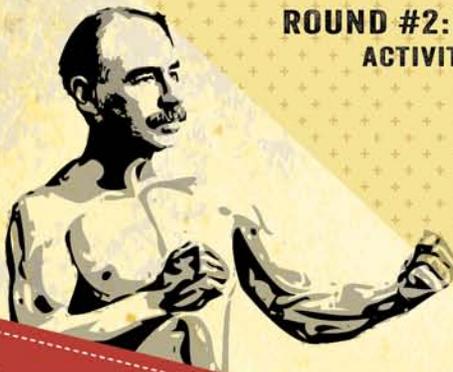
ROUND #1: THE NATURE OF THE ECONOMY: MACRO VERSUS MICRO

ROUND #2: THE ESSENTIAL INDICATOR OF ECONOMIC ACTIVITY: AGGREGATE DEMAND VS PRICES

ROUND #3: PLANNING

ROUND #4: RECESSION

ROUND #5: STIMULUS



**JOHN MAYNARD
KEYNES**



**FRIEDRICH AUGUST
HAYEK**

ROUND 1

KEYNES

Macroeconomic trends offer a better perspective on the economy than an analysis of individual choices. Only by and through the evaluation of aggregate measures of an economy can the economist glean a sense of its operation.

HAYEK

The size and complexity of an economy precludes the possibility of knowing at any general level, with any accuracy, in what condition it stands, or by which mechanisms it works.

*“The recognition of the insuperable limits to his knowledge ought indeed to teach the student of society a lesson of humility which should guard him against becoming an accomplice in men’s fatal striving to control society - a striving which makes him not only a tyrant over his fellows, but which may well make him the destroyer of a civilization which no brain has designed but which has grown from the free efforts of millions of individuals.”*³

ROUND 2

KEYNES

To take the pulse of an economy, one must measure aggregate demand. The total spending of an economy is the measure that matters most.

*“For the mere existence of an insufficiency of effective demand may, and often will, bring the increase of employment to a standstill before a level of full employment has been reached. The insufficiency of effective demand will inhibit the process of production in spite of the fact that the marginal product of labour still exceeds in value the marginal disutility of employment.”*⁴

HAYEK

Prices are the instrumental feature of a market economy. As an expression of utility, prices allow consumers to communicate with producers about what they value and further, help direct entrepreneurial capital to its most efficient ends.

*“I am convinced that if it were the result of deliberate human design, and if the people guided by the price changes understood that their decisions have significance far beyond their immediate aim, this mechanism [the price system] would have been acclaimed as one of the greatest triumphs of the human mind.”*⁵

ROUND 3

KEYNES

Because we can understand the economy at a general level, and given our knowledge of aggregate demand, policy makers should not hesitate to tweak and engineer the economy to make it the best possible.

*"I should say that what we want is not no planning, or even less planning, indeed I should say that what we almost certainly want is more."*⁶

HAYEK

Given the intricate complexity of a system such as our economy, planning is best accomplished not by one person alone, one committee alone. No, planning must happen at the individual level. It is the greatest virtue of the free market that, by way of the price system, the plans and decisions of innumerable participants coordinate (or not).

*"...[W]ho is to do the planning? It is around this question that all the dispute about "economic planning" centers.It is a dispute as to whether planning is to be done centrally, by one authority for the whole economic system, or is to be divided among many individuals. Planning in the specific sense in which the term is used in contemporary controversy necessarily means central planning—direction of the whole economic system according to one unified plan. Competition, on the other hand, means decentralized planning by many separate persons."*⁷

ROUND 5

KEYNES

The answer to insufficient aggregate demand is to increase investment spending, thereby spurring consumption. This happens through government spending. As investment spending picks up, more people head back to work, they in turn have more money in their pockets, with which they may purchase more goods. This fiscal remedy, while dangerous if abused over the long term makes the short-term more bearable and leads to a quicker recovery.

*"But this long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again."*⁹

HAYEK

The erroneous price signals characteristic of a recession cannot be artificially healed. Only by market processes, as businesses respond to a recession by improving efficiency and productivity, do prices realign. Once prices again send proper signals to investors and entrepreneurs, the economy begins to recover.

*"Unfortunately, progress cannot be dosed. All we can do is to create conditions favorable to it and then hope for the best. It may be stimulated or damped by policy, but nobody can predict the precise effects of such measures. To pretend to know the desirable direction of progress seems to me to be the extreme of hubris. Guided progress would not be progress."*¹⁰

ROUND 4

KEYNES

Aggregate demand governs output. If aggregate demand slumps then output slumps. Typically, as investment spending is the most volatile component of output, if nervous consumers begin hoarding their money—taking it out of circulation and placing it in their mattresses—then the balance between savings and investment is upset. This leads to overproduction, which in turn leads to unemployment, which in turn leads to further decreases in consumption spending and investment: hence, beware of this vicious cycle.

*"We do nothing because we have not the money," Keynes said in 1930 to a government committee investigating the causes of the economic crisis. "But it is precisely because we do not do anything that we have not the money."*⁸

HAYEK

Recessions happen because of a preceding boom. Artificially cheap credit fuels a boom, distorts prices, and the distorted prices send incorrect signals to entrepreneurs about how and where to allocate their capital. As a result, capital funnels to unproductive projects. As soon as the unnaturally low interest rates that created the boom begin their march back to a more stable rate, the projects are no longer feasible and the economy slumps.

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Master Limited Partnerships (MLPs):

A Primer

In the first decade of the twenty-first century energy concerns occupied center stage. Our collective ability to fuel the world with fossil fuels alone has been questioned at length. Even as hoards of investors and entrepreneurs pile into alternative energy sources, lurking in the shadows are the previously unseen sectors of US energy production. Many of these sectors maintain little exposure to external volatility and occupy essential locations along supply lines, affording geographic (hence profitable) monopolies. Among these hidden elements of the energy world lie Master Limited Partnerships (MLPs), an instrumental, though frequently unnoticed piece in the US energy puzzle. In addition to constituting the skeletal natural resource infrastructure in the US (think pipelines and storage facilities), MLPs present an excellent investment opportunity for investors interested in high dividend-paying “stocks.”

WHAT ARE PIPELINE MLPs?

To begin, not all MLPs are “pipeline MLPs”, even if most are. What then is an MLP? Broadly speaking, a master limited partnership is a publicly-traded partnership where the public owners are unit holders (not stock holders) who receive distributions of the operating

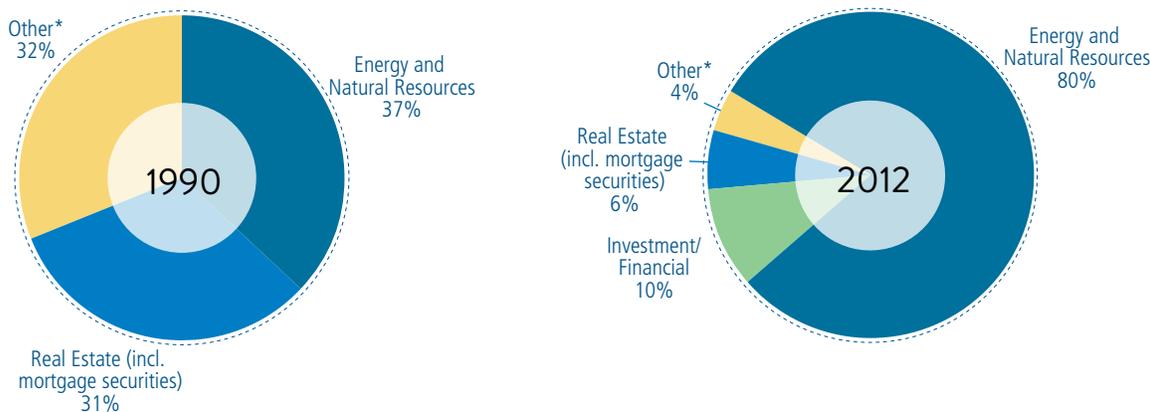
income. In effect, the “Master Limited Partnership is an alternative to a corporation,” with considerable differences that make it “an attractive organizational form for corporations in mature industries without many financially acceptable opportunities for reinvestment.”¹

For tax purposes, MLPs file differently such that, unlike a corporation, the distributions paid to unit holders are considered a return of capital instead of standard taxable income from a corporation. Not only is the distribution schedule considerably idiosyncratic, every MLP is managed as a partnership. In this arrangement, a general partner manages the business and generally holds a small ownership position. The limited partners own the remaining position and receive distributions of cash flows via their ownership units.

What comprises the “owned” portion of an MLP? In the case of pipeline MLPs, typical assets include those that transport, store, and distribute key petrochemicals such as crude oil or natural gas. Most often, MLPs are involved in the “midstream” part of the energy industry. This means that they operate between the “upstream,” exploration and production of petrochemicals, and the “downstream” segment, which includes refinement and retail sales of gasoline and other end-user products.

But the “midstream” location does not mean that this sector is insignificant. Quite to the contrary, MLPs operate nearly 400,000 miles of pipeline assets in the US and transport millions of gallons of petrochemicals—the building blocks of everything from asphalt to aspirin—

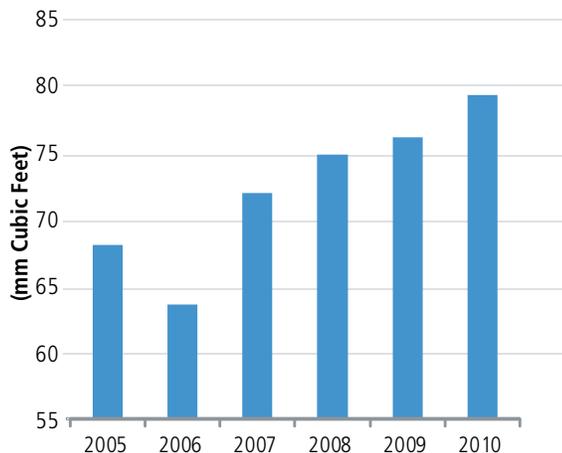
fig. 5 MLPs BY INDUSTRY GROUP



SOURCE: National Association of Publicly Traded Partnerships

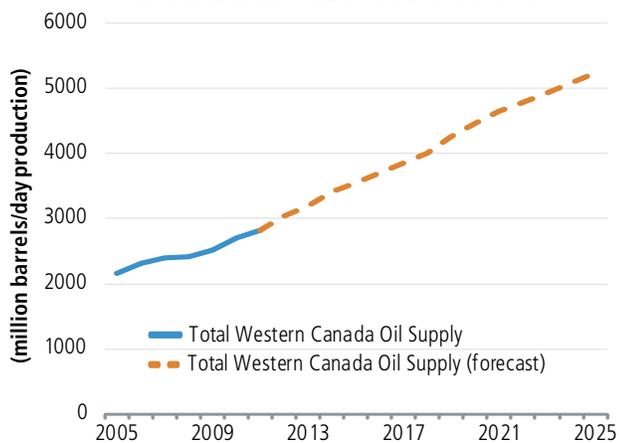
*Other includes Hotels, Motels, Restaurants, Investment/Financial Business, and Other Business

fig. 6 US NATURAL GAS PIPELINE VOLUMES



SOURCE: US Energy Information Administration

CANADIAN OIL PRODUCTION



SOURCE: Canadian Association of Petroleum Producers

annually. In other words, the assets owned by pipeline MLPs form the circulatory system through which the blood of our nearly all our material goods travel.

What is more, the midstream part of the energy production chain has low exposure to commodity prices. These firms typically generate revenue based on volumes of liquids transported or stored, and often, price increases are regulated and occur annually based on measures of inflation. Thus, MLPs make their money by charging other energy companies fees for transporting petrochemicals over large distances, and then for storing and processing the chemicals to the specifications of customers for use in end markets.

These fees, though, are not only custodial. Pipeline MLPs operate like toll collectors: that is, they provide extremely valuable services by facilitating the transport and storage of essential resources. The MLP sector

accomplishes those important tasks that fall through the cracks at the largest energy conglomerates, and in doing so, make energy that much more affordable for everyday consumers. For example, many of the assets now owned by MLPs are midstream pipeline and storage assets that were not efficiently managed by larger integrated players and that fell outside of the core competency of their management teams. This nice division of the labor of trucking and bartering energy products allows pipeline MLPs to specialize in managing and operating these assets, increasing efficiency and decreasing costs.

As neglected assets “drop-down” from the large, integrated energy companies such as ExxonMobil and BP, MLPs purchase these assets from energy companies at valuations that are attractive to both the MLPs and the large energy companies. Both parties view these transactions as “win-win”: large energy companies unload inefficient assets, and MLPs acquire an asset they know best how to use.

A BRIEF HISTORY OF MLPs OR HOW MLPs BECAME PREDOMINANTLY ENERGY ORIENTED

The first MLP in the United States was created in 1981: it was the Apache Oil Company. The Apache Oil Company took advantage of particular legislation to “raise capital from smaller investors by offering them a partnership investment in an affordable and liquid security.”² Witnessing the early success of MLPs, partnerships formed in diverse sectors hoping to exploit tax advantages. In particular, real estate investment trusts that set up as MLPs were the most egregious abusers of tax loop holes. For this, and other structural reasons, Congress amended the law and going forward MLPs increasingly formed only in the energy sector.

Lawmakers, though, were quick to respond; “In December 1987 tax law changes removed the majority of the tax advantages for active income-generating MLPs.”³ This legislation explicitly described master limited partnership tax treatment for MLPs earning greater than 90 percent of their income from specific sources: income and capital gains from natural resources activities, income from commodity investments, and capital gains from the sale of assets used to generate the above types of income, etc.⁴

As a result, the sectors in which MLPs form have changed significantly since 1990 (see Figure 5). In particular, because of the strict income requirements, the MLP arrangement remains particularly well suited for those companies operating in natural resource infrastructure. Not surprisingly Congress passed this law to encourage investment in domestic energy infrastructure (oil/natural gas pipelines, storage facilities, etc.).

Such legislation remains a key driver for the industry as the inherent tax advantages available to retail investors in MLPs provide a latent demand for partnership units. Public policy goals have aligned neatly with the interests of yield-seeking investors to create an industry focused on decreasing the reliance on foreign energy sources.

Today, the MLP market is no longer considered a fringe sector. There are over 80 publicly traded MLPs, with a total market cap well in excess of \$300 billion.⁵ Both numbers will likely grow significantly over the next 5 to 10 years as more assets are purchased from large oil companies, liquid and gas volumes continue to increase as energy demand rises, and investor interest grows. Additionally, with more energy companies considering establishing new MLPs the size, breadth, and variety of MLPs should proliferate, generating increased investment opportunities in crucial energy infrastructure projects of the next generation.

INVESTING IN PIPELINE MLPs

Because of the niche they serve, pipeline MLPs require special investment consideration. In valuing MLPs, one cannot simply rely upon traditional net income-based measures such as Price to Earnings. These ratios are nearly meaningless for MLPs since they have very low annual net income due to their unique operating structures that force general partners to pay out the majority of operating income to the limited partnership units.

We instead look at “Distributable Cash Flows,” or “DCF,” which measure the cash profits that MLPs are actually able to give unit holders. Finding MLPs with large, sustainable, and growing DCFs is the key to building a high quality, resilient portfolio of MLPs.

ATTRACTIVE YIELDS AND STRONG CASH FLOWS

Because MLPs have attractive yields they make an obvious contribution to any yield-focused portfolio. On

average MLPs yield approximately 6%-7%, compared to 1.9% for the S&P 500 Index. The MLP business model attempts to generate significant and growing cash flows to support high distribution payouts.

Midstream pipeline and storage facilities typically charge fees to customers based on the total volume of liquids and gases that flow through their system. As the majority of pipelines transport petrochemicals between states, they are able to impose an annual fee increase that usually equates to a fixed baseline of 2% plus an inflation adjusted growth factor (often based on the Producer Price Index).

The cash flows of MLPs thus generally have a natural hedge against inflation, which may protect equity investors from pricing power erosion. If successful, this gives them the ability to grow revenues and cash flows based merely on existing infrastructure. MLPs have significant fixed costs which pose almost insurmountable barriers to entry for new competitors. The industry is also highly regulated, as is the fee schedule, making these businesses effectively monopolies or oligopolies in the majority of territories in the US.

The industry also benefits from an increasing secular demand for the petrochemicals it transports. US demand for crude oil and natural gas is robust and growing. As power plants in the US and the developed world transition away from coal and towards cheaper, cleaner, natural gas, this demand should increase (See Figure 6).

Additionally many major producers of industrial chemicals are investing in using Natural Gas Liquids (NGLs) to produce key polymers and bi-products for industrial use. The total volume of natural gas transported in US pipelines has risen steadily and may increase if this secular shift continues.

Presently, Canadian and US oil production has accelerated at breathtaking speed due to large discoveries in Western Canada and the Bakken shale in North Dakota. New technologies and processes have yielded significant results in areas where petrochemicals were previously thought not to exist in large quantities. These new resources require new pipeline infrastructure to bring them to key refineries and ports in the Gulf Coast, giving pipeline volume demand an additional boost which may last for several years.

Finally, MLPs have outperformed the broad equity market on a total return basis. The Alerian MLP Index has returned investors 17.6% annually on a total return basis (dividends reinvested) from January 2000 through March 2012. The S&P 500 Index has returned just 2.5% per annum during that same time period.

THE TAKEAWAY

Given the advantages of pipeline MLPs, with attractive yields and fair prospects for future growth, the recent popularity of pipeline MLPs with investors should not surprise. In addition to providing highly specialized and critically important services, the pipeline MLP industry offers an excellent case study of an emergent industry, the advent of which has increased access to and affordability of natural resources for consumers.

Even despite the strong recent performance of the asset class, the demand dynamics and barriers to entry of the industry indicate an environment conducive to the continued success of pipeline MLPs. With global energy concerns now moved to the fore, and in the face of increasing attention paid to energy alternatives, MLPs operating midstream in the energy industry will become ever more important players.

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