JUNE-JULY 2013

POINT *of* VIEW

OUR PERSPECTIVE ON ISSUES AFFECTING GLOBAL FINANCIAL MARKETS

The Leverage Myth

What if a notion you hold about the world is widely accepted, yet wrong?

We've all heard the old wives' tales: wait at least 30 minutes after eating before going for a swim. If you go outside with wet hair, you *will* catch a cold. As humans we weave plausible stories together to help make sense of the world around us.

Myths surround the financial markets, too. Perhaps the most ingrained myth, since 2008 has been a story concerning leverage. Inquire as to the cause of the financial crisis and don't be surprised to hear, "It's all about *leverage.*" If we ask a colleague to explain the depth and duration of the recession? "It's all about deleveraging." The reply would come as if on cue from a playwright's script.

In fact, it's become an all-purpose word. Why is inflation subdued? "Deleveraging!" Why are bond yields low? "Deleveraging!" One renowned investor even labeled the post-crisis economic process as the "beautiful deleveraging."

Just as the cold symptoms begin shortly after the post-shower evening stroll, a semblance of truth exists. Borrowing *is* down, inflation *is* low, economic growth *is* slow, and government debt levels *are* high as measured as a share of national output (henceforth debt/GDP). Is leverage (the accumulation of debt) the unifying theme?

Just as exploding the myth of the old wives' tale helps us understand the fundamental mechanics at work in the world, the same is true for investors: expose the heart of the problem to make better informed investment decisions. Here we go.

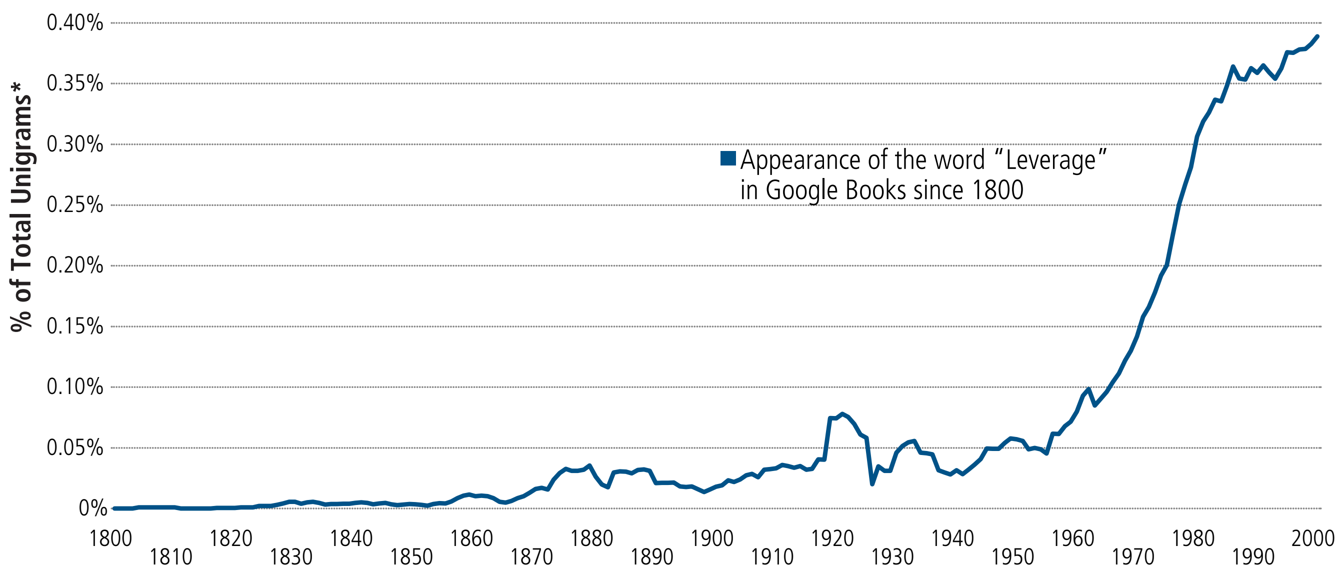
> **"PERHAPS THE MOST INGRAINED MYTH, SINCE 2008 HAS BEEN A STORY CONCERNING LEVERAGE."**

HISTORICAL ECHOES

Neither leverage nor its antithesis, deleveraging, is new. A look at Google Ngram Viewer (see Figure 1) shows the epic rise of the term in the late 20th century. The inspiring author: one Irving Fisher, economist.

Mr. Fisher pondered the effects of "leverage" in the 1930s after wagering a healthy sum on stocks—and los-

fig. 1 THE LONG HISTORY OF "LEVERAGE": WHAT THE BOOKS TELL US



*All numbers are exact when multiplied by 10^{-7}

Source: Google

ing it in the 1929 crash. Beginning in 1930, his theory of "debt deflation" appeared in numerous books and grew in popularity in the aftermath of the Great Depression before entering relative hibernation until the 1970s. The notion is simple and familiar to modern readers. As collateral values decline, a borrower's ability to continue borrowing rapidly decreases, often resulting in a fire-sale of assets. In Fisher's example, the stock market crash and ensuing depression after 1929 were signs of this "debt deflation."

THE MODERN VERSION, REPACKAGED TO ENTERTAIN INVESTORS

With that backdrop, modern variants of the same leverage story may ring true for certain investors today.

Here's how it works. Imagine a US home owner in Las Vegas in 2004 borrowing using a house as collateral. If the house costs $100,000 and Joe Homeowner borrows $80,000, he pays $20,000 as a down payment. The loan-to-value is 80% ($80,000 divided by $100,000). The "leverage" rate is the asset value divided by the cash required at purchase, $100,000 divided by $20,000, or 5 to 1. In modern parlance, the buyer is "leveraged 5 to 1."

Or, if you prefer, by 2006, an investment bank could buy AAA-rated mortgage-backed securities (MBS) by using the MBS as collateral to finance the holdings on a rolling, overnight basis. Due to the perceived high quality of the collateral posted, the bank would pay upfront cash of just 1.6%. This investment bank in this example would be "leveraged" roughly 60 to 1.

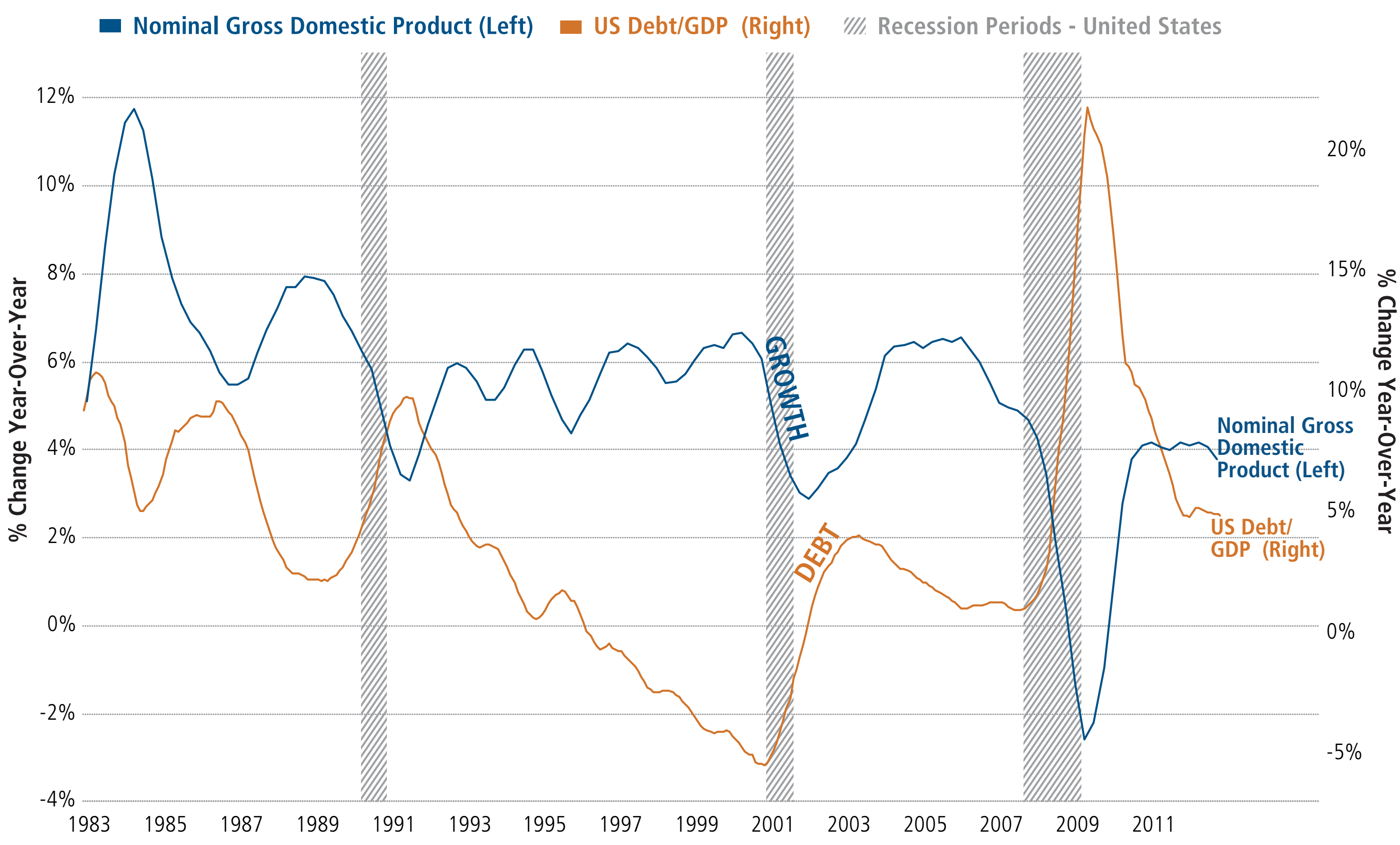
Both forms of leverage were indeed integral to the boom and the bust that followed from 2003 to 2007.

PROBLEMS WITH THE THEORY

It's a great story. Elegant, intuitive, yielding interesting insights. And, as we highlighted above, multi-purpose. It also plots a path for public policymakers: put a cap on leverage (or at least recognize it) and you can help control economic fluctuations ("smooth out the business cycle").

So what's the problem?

fig. 2 WHEN ECONOMIC GROWTH SLOWS, DEBT/GDP SPIKES—NOT THE OTHER WAY AROUND



Sources: Bureau of Economic Analysis, Treasury Department

First, you might assert, banks were "over levered", right? As It turns out, banks maintained leverage ratios in 2007 no greater than in 1997. We push on the theory: why no crisis in 1997? or 2003?

Second, what about households? Indeed, households were leveraged but household assets primarily included equities, mutual fund shares, and pension and life insurance reserves (37-56%), followed by real estate (30-42%) through 2010. Leverage spiked when household values *fell* sharply in the crisis, but at no time did debt exceed net worth by more than 28%. Once again, we wonder, if this is the problem, why no crisis in other years?

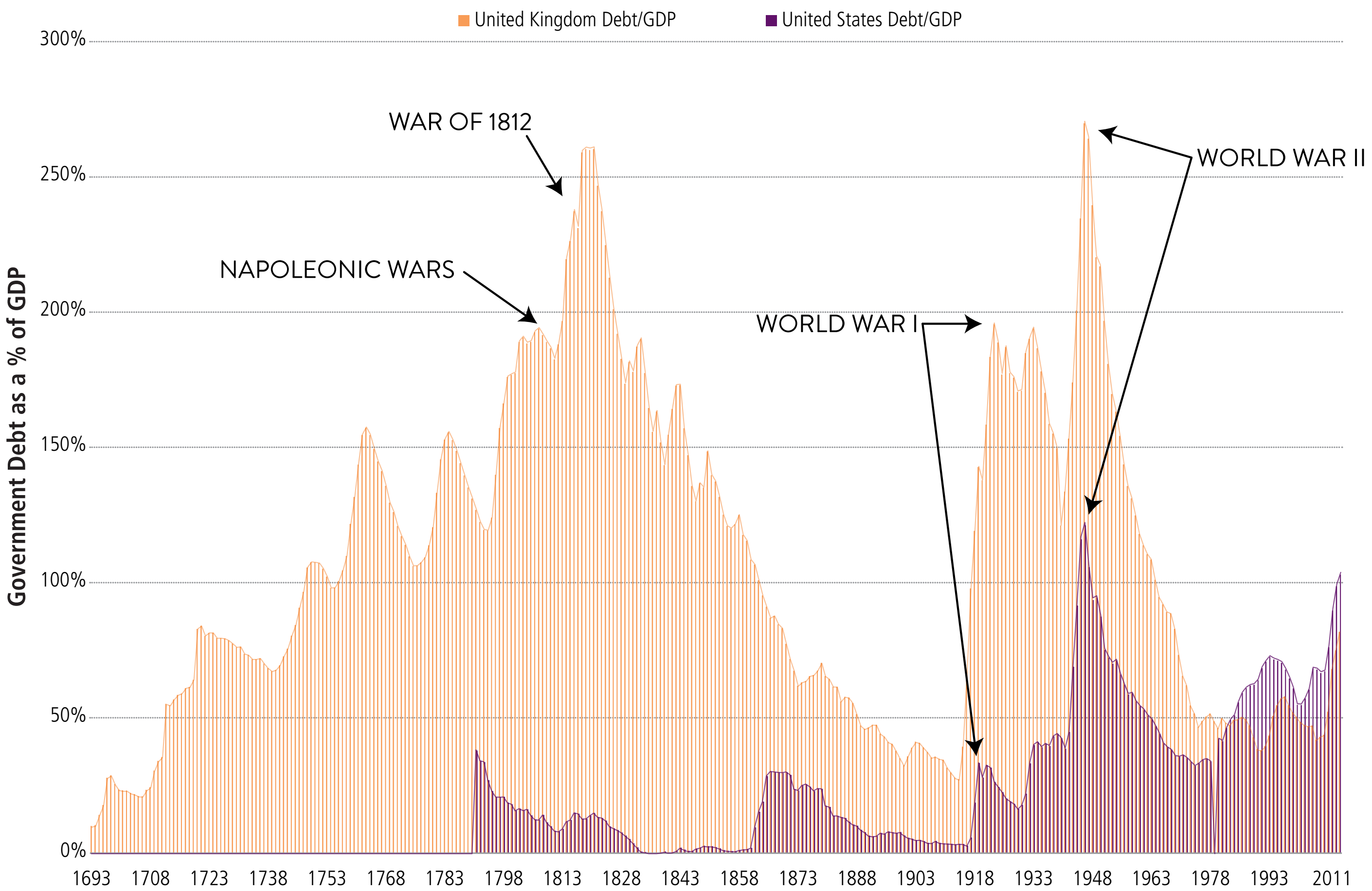
What about corporations? To the contrary, the words "thrifty" and "frugal" describe the nonfinancial business sector. Leverage actually fell in the run up to the crisis as corporations accumulated record levels of cash on balance sheet.

But, surely, broker-dealers were "over levered," right? Well, as it turns out, banks were no more "levered up" in 2007 than in 2003.

To help understand, let us dial back 400 years. In William Shakespeare's *The Merchant of Venice*, leverage provided the key plot device (only economists would arrive at this conclusion). As Yale economist John Geanakoplos asks: "Who can remember the interest rate Shylock charged Antonio? (It was zero percent) But everybody remembers the pound of flesh that Shylock and Antonio agreed on as collateral."

As it was for Shylock and Antonio in 1597, so it was in 2007: collateral counts most in credit creation. When borrowing against collateral, as long as collateral values remain stable or rise, everything is fine. But, if collateral value declines a crisis ensues. The crisis corresponds to the case where information is produced and only good collateral can be used once it has been identified.

fig. 3 DID HIGH DEBT/GDP HOLD THE US AND UK BACK? NOT IF HISTORY IS A GUIDE



Source: Treasury Department and HM Treasury

Indeed, during the financial crisis, not all collateral was shunned by the marketplace as long as it was viewed as "good collateral." For example, for broker-dealer banks before October 2008, corporate bonds maintained their pre-crisis collateral value and had no haircuts applied.

Furthermore, a critical question remains unanswered: why does the de-leveraging occur? The "big 5" US broker-dealers increased total assets from just 2% of GDP in 1980 to 35% in 2007! This accounts for roughly a third of assets of the banking system. This is a long road from 1980, when broker-dealers provided fee-based "broking" services to behemoths depending on the availability of good collateral to borrow. If perceived "good collateral" becomes tainted, borrowing becomes difficult.

THE RELATED NOTION: DEBT BURDEN IN DELEVERAGING

Another related notion is that debt overhangs (the stock of debt) impede growth. This concept was popularized by Harvard Professors Carmen Reinhart and Ken Rogoff, of *This Time is Different* and "Growth in a Time of Debt" fame. They write: "When gross external debt reaches 60 percent of GDP, annual growth declines by about two percent; for levels of external debt in excess of 90 percent of GDP, growth rates are roughly cut in half."

Further, in the words of Reinhart: "What the data seem to reveal is that at lower ranges of debt, you really can't make a link between debt and growth. But once you hit a certain threshold, you hit a wall."

While more recent research throws into question the precise magnitude of the growth slowdown, the real problem seems to be a case of "correlation versus causation." If umbrellas appear on the streets of New York City as raindrops begin to blanket the sidewalks, did the instruments *cause* the rain?

With regard to government debt, we find that the rise in debt/GDP follows a slowdown in the economy. Why? Quite simply: an economic slowdown hits government revenue coffers, reducing sales, and income tax receipts. Meanwhile, governments usually maintain previous spending plans at least for a time. This gap—the "budget deficit"—widens and must be financed through increased borrowing. So, just as the GDP growth slows, borrowing adds quickly to the overall debt burden. The most popular metric—debt/GDP—records a sharp increase.

But, this is not the *cause* of slow growth, quite the opposite, in fact. When growth slows, tax revenues fall, and debt burdens rise (See Figure 2 on previous page).

We suggest the same has always been true. In the spirit of Reinhart and Rogoff, if we track back hundreds of years the same pattern abides. Take for example, the United States and the UK over the past two centuries. Periods of high debt/GDP were followed by growth slowdowns (the Great Depression) or war. Did these periods portend slow growth?

Once again, quite the opposite: from the absolute peak of Britain's debt/GDP after the Napoleonic Wars (by the way, a far cry away from today's British debt/GDP levels and more "Japan-like"), what happened (See Figure 3)? The industrial revolution: or the greatest period of economic growth in world history (prior to the emerging markets phenomenon over the last two decades).

There is no critical threshold for debt/GDP. What's more, high debt/GDP do not suggest an economy is doomed to slow and sluggish growth. In fact, history tell us spectacular growth periods often follow for good reason:

> **"WHO CAN REMEMBER THE INTEREST RATE SHYLOCK CHARGED ANTONIO? (IT WAS ZERO PERCENT) BUT EVERYBODY REMEMBERS THE POUND OF FLESH THAT SHYLOCK AND ANTONIO AGREED ON AS COLLATERAL."**

the preceding period of slow or negative growth drives the much-feared debt/GDP ratios. Growth cures many ailments.

LESSONS FROM EXAMINING OLD WIVES' TALES

What have we learned? First, collateral is paramount in any financial system. Leverage is a symptom or consequence of the use of collateral. Further, if this is true, interest rates (such as the Federal Reserve's overnight interest rate) remain but one piece of the monetary policy puzzle. Keeping the overnight interest rate at the zero lower bound (ZLB) will not necessarily ignite the risk-taking and credit creation desired by the Fed due to a general shortage of "good collateral."

Nor is "quantitative easing" (see our Centerpiece, "The World Biggest Bond Portfolio", for more on this) an answer. With quantitative easing, the central bank *removes* high-grade collateral in attempt to levitate the scarcity-value of remaining collateral. Will it work? Perhaps we should ask Shylock.

> **"WHEN GROWTH SLOWS, TAX REVENUES FALL, AND DEBT BURDENS RISE"**

Second, unlike the field of physics, stable relationships between macroeconomic variables do not exist. There is no debt/GDP leverage "trigger point." The less scientific phrase, "it depends," comes into play. A sharp contraction in economic activity preceded the spike in developed world debt/GDP ratios. One path out: economic growth. Watch the pages of newspaper for articles on "the incredible shrinking budget deficits" as the economic recovery progresses.

Third, we suggest investors avoid simple, one-size-fits-all explanations for economic puzzles. The "de-leveraging" concept does not explain everything. The all-too-common problem in economic analysis is the "theory of everything" problem. Elegant, plausible, appealing and… false.

Remember that the next time you sneeze.

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The Untold Story of World Trade

By now most investors know the story of globalization. The extraordinary forces of global trade and communication technology brought the developed world in contact with new producers and new consumers, lowering costs and employing millions of people. From 1948 to 2012, world trade exploded by a factor of 307 times, rising from $120 *billion* to $36 *trillion*.[1]

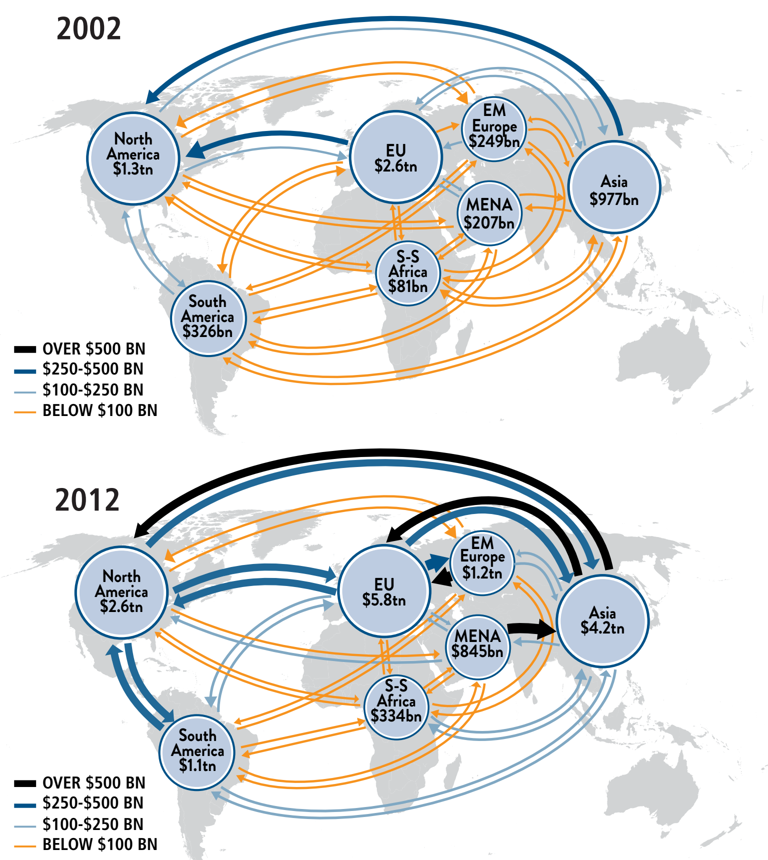
But China has not been the only one. Collectively, emerging economies now capture 26.7% of world merchandise trade, up from 8.1% 30 years ago. What is more, trade among advanced areas (US, Europe, Japan) declined from just under 50% of total global trade in 1980 to less than 30% today[3]

Lesser known, though, is the rise of intra-emerging market trade. Whether judged by the sheer volume of trade, the composition of trade, the consequences for growth, or the new financial landscape produced as a result of emerging market inter-linkages, one thing is certain: emerging markets will combine with emerging markets in the making of the next "developed" world. The result presents tremendous opportunities for investors.

THE EXPLOSION OF E.M. TO E.M. TRADE

China's outsized growth pattern typifies both the dramatic rise in world trade and the gains made in emerging market trade. In 1990, Chinese exports accounted for less than 3% of total world trade. As of 2010, Chinese exports constituted better than 11% of world trade.[2] What is more, Chinese trade with other emerging Asian nations lifted from $102 billion in 2000 to better than $1 trillion in 2012.

fig. 4 MORE INTEGRATED THAN EVER: GLOBAL TRADE FLOWS OVER TIME



Note: All numbers are merchandise trade values
MENA is Middle East & Northern Africa
S-S Africa is Sub-Saharan Africa

Source: World Trade Organization and Barclays Capital

Countries all over the emerging world have forged new relationships as a by-product of newfound commercial connections. Where trade and low-cost manufacturing labor for developed markets initially drove the emergence of many economies around the globe, regional trade as the result of supply-chain integration now reigns. Trade with neighbors, not directly with the developed world: that is the motto of the new "emerged markets" (See Figure 4).

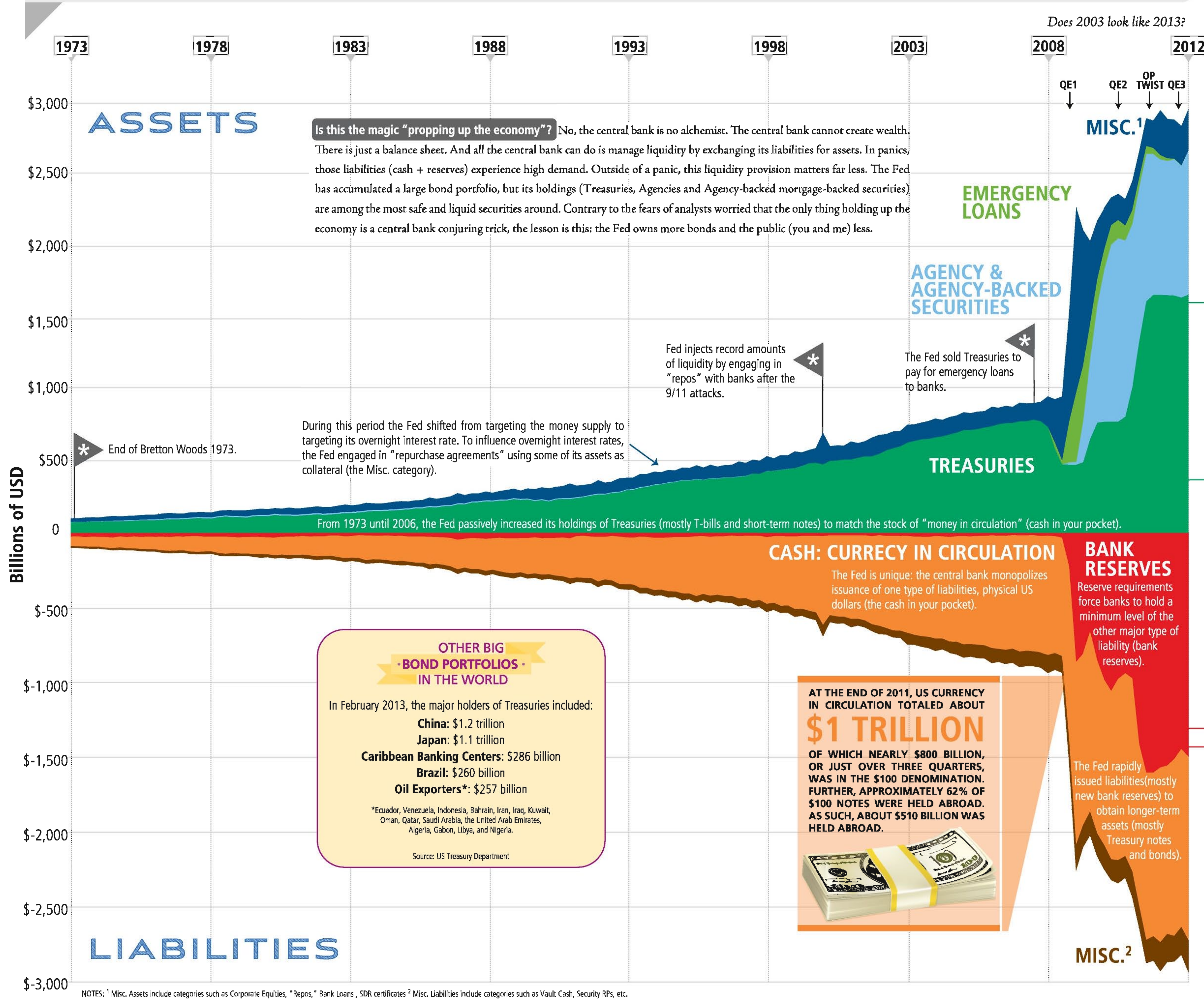
Measured in terms of trade partners, United Nations research indicates that "countries as diverse as Morocco, South Africa and Vietnam have substantial export and import relationships with over 100 [different sovereign] economies."[4] As a point of reference, Vietnam was a communist state in 1980 with a gross domestic product (GDP) of only $27 billion. At the same time, IBM alone had a market cap of $39.6 billion. The expansion of trade in the emerging world largely explains why today

Continued on page 9

THE WORLD'S BIGGEST BOND PORTFOLIO

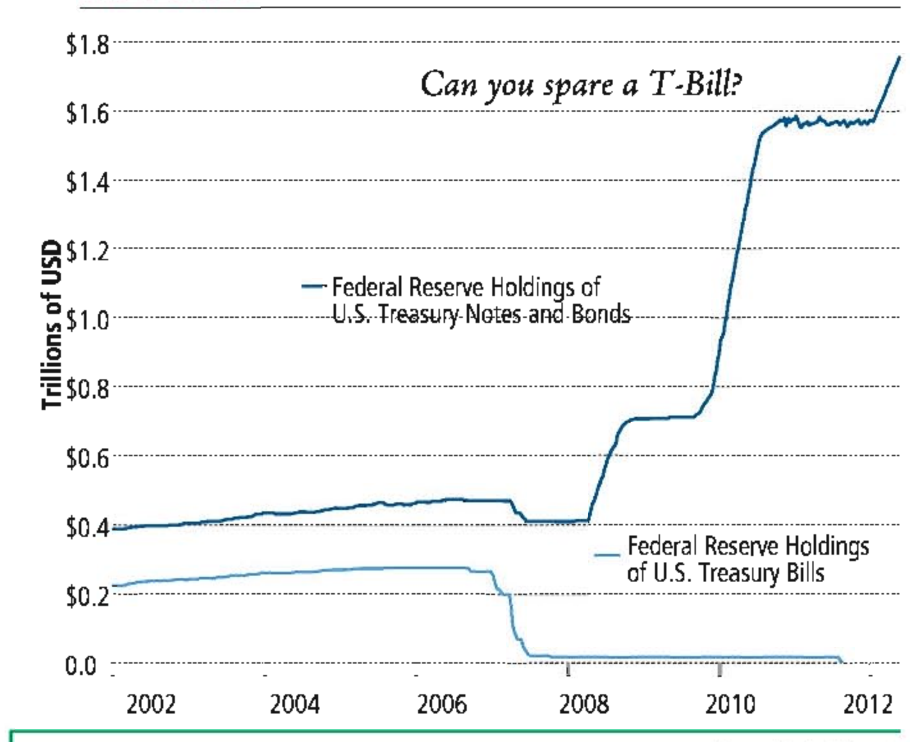
Twelve regional Federal Reserve banks and the Federal Reserve board comprise the Federal Reserve system. While the regional reserve banks operate under the same system, each reserve branch functions as a separate legal entity. In each region, commercial banks contribute equity capital to their regional reserve bank, operating as the owners.

We combine the balance sheets of the twelve regional reserve banks and the Federal Reserve board to examine the quantities and kinds of assets and liabilities held by the system. In aggregate, the Federal Reserve system holds more Treasuries than any other portfolio in the world. Think of the central bank as a financial intermediary: producing its own liabilities and holding assets. The key difference between the central bank and any other financial intermediary is other financial intermediaries must entice the public to hold their liabilities by offering attractive yields on investments.



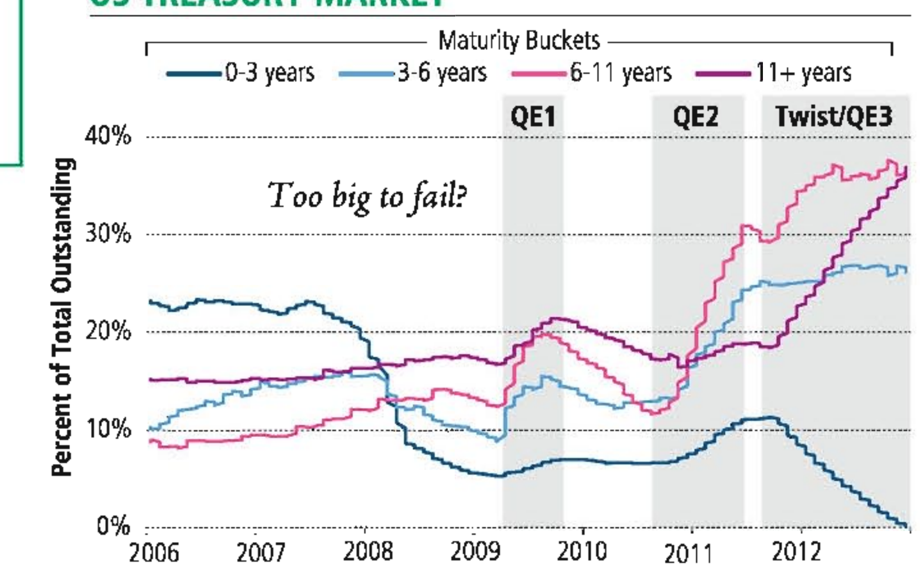
NOTES: [1] Misc. Assets include categories such as Corporate Equities, "Repos," Bank Loans, SDR certificates [2] Misc. Liabilities include categories such as Vault Cash, Security RPs, etc.

THE FED PURCHASED NOTES AND BONDS, SOLD ITS T-BILLS



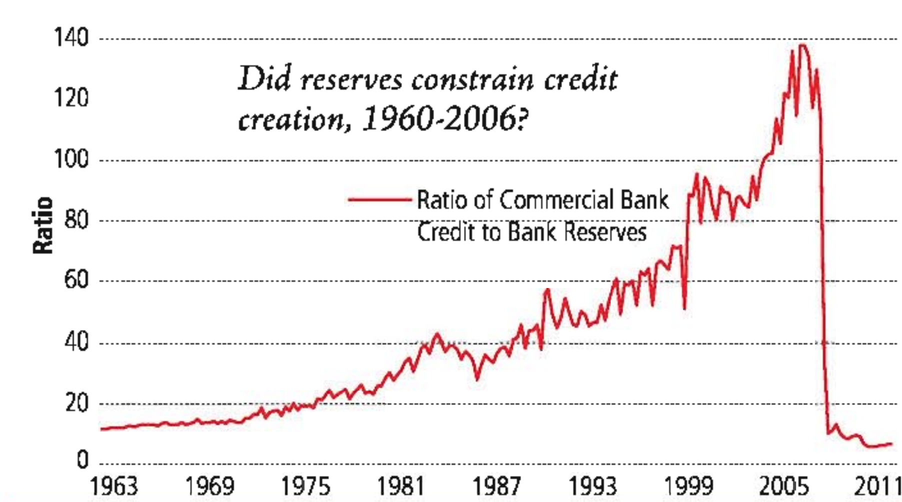
Source: Federal Reserve

THE FED HAS BECOME A MAJOR PLAYER IN THE US TREASURY MARKET



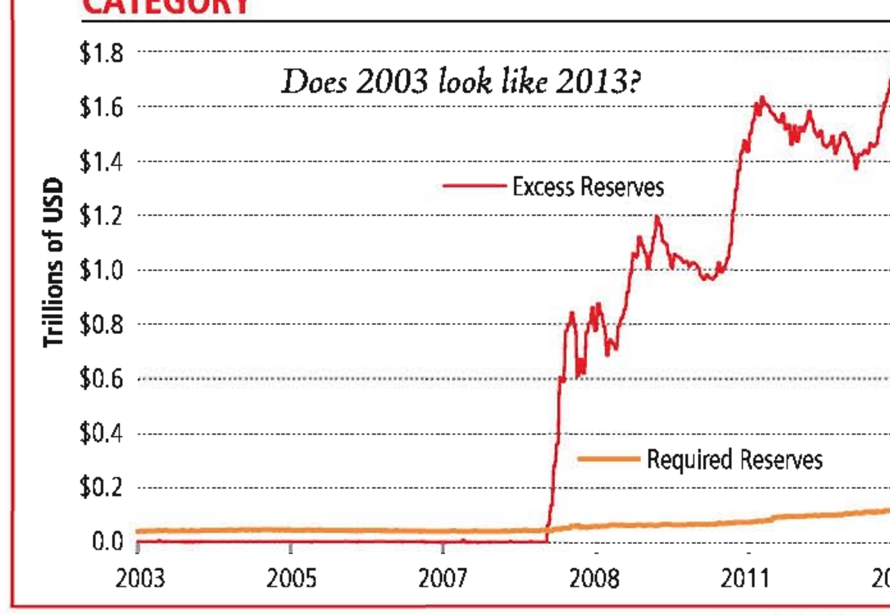
Source: International Monetary Fund

GROWTH IN BANK RESERVES NOT A CONSTRAINT ON BANK CREDIT



Source: Federal Reserve, Payden Calculations

"EXCESS" RESERVES DOMINATE BANK RESERVES CATEGORY



Source: Federal Reserve

the output of Vietnam approaches $155 billion, with exports totaling over $105 billion.

STRONGER LINKS IN THE SUPPLY CHAIN

Trade among nations is not new. Three primary features though distinguish today's emerging market transactions: trade in services, the kinds of goods traded because of supply chains, and shipping and communication technology.

Services: As a share of world GDP, trade in services has nearly doubled since 1975. What was formerly an industry which represented only 6% of world GDP, today, trade in services makes up just under 12% of total global output—a sign of economic maturation.

Especially at the regional level, trade in services will contribute expansions in economic activity. Market research produced by Ernst and Young argues that, by 2020, service trade among African and Middle Eastern countries will increase by over $150 billion. Further, service trade between China and the rest of Asia should grow by $288 billion over the same time period.[5]

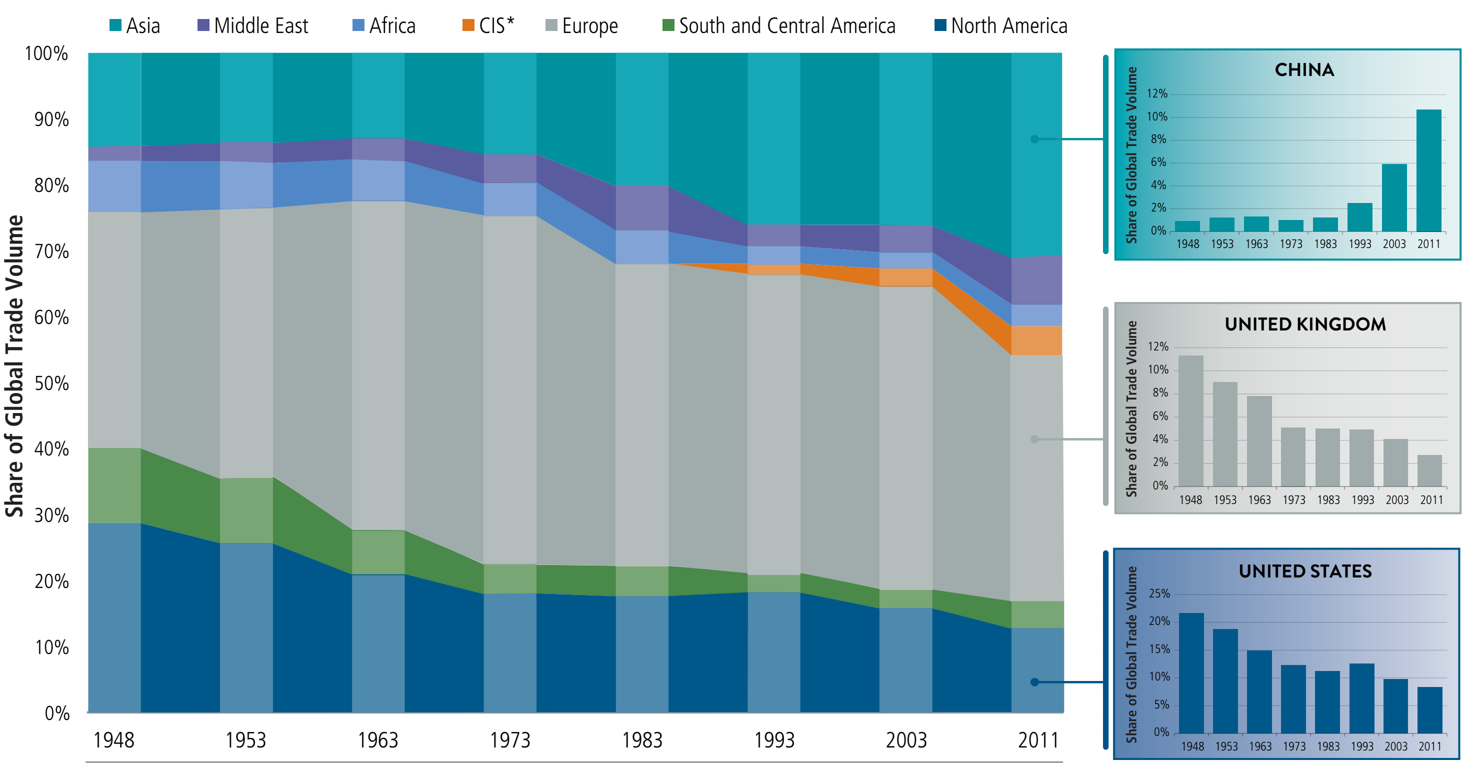
For instance, Brazilian service exports registered only $9 billion in 2000. Eleven years later, Brazil exported better than $38 billion in services to emerging markets and the world , an increase of more than 400%! More specifically, business travel exports (to the rest of the world) doubled from $30 million to just under $70 million.

Supply Chain: Not only do services constitute a larger share of total trade, but the kinds of goods traded amongst emerging market countries have changed as well. In 1928, William E. Boeing needed only a single "plant…devoted solely to the manufacture of aircraft" to produce his aircraft. But that was then.

Changes in the operation and management of supply chains in manufacturing have massively influenced the volume of trade, benefitting low-cost manufacturing countries tremendously. A country need only produce one component of a larger product to be successful. When Boeing sources products for its new 787 Dreamliner, it depends on 5,400 factories world-wide, 50 tier one suppliers (each with multiple factories), and a host of other secondary suppliers. Such complex and variegated supply chains allow countries with comparatively less technological and financial infrastructure to participate in the production of global products.

The intensity of intra-supply chain trade (and the attendant importance of intra-emerging market trade) drove much of the boom in global trade over the past 30 years.

fig. 5 ASIA AND THE MIDDLE EAST ACCOUNT FOR BETTER THAN 1/3 OF GLOBAL TRADE VOLUME



*CIS stands for Commonwealth of Independent States

Source: World Trade Organization

According to an industry study, if every country improved just two key supply chain barriers – border administration and transport and communications infrastructure and related services – global GDP could expand by US$2.6 trillion (4.7%) and exports by US$1.6 trillion (14.5%).[6]

Research finds further that "countries that experienced higher changes in intra-industry trade between 1985-2009 are those integrated in a supply chain."[7] For example, Thailand's highest value-added export is automatic data processing machines and parts thereof: a roughly $19 billion industry. And these component parts do not go directly to the top of the supply chain: China, Hong Kong and Malaysia account for 48% of total computer-related exports[8] (See Figure 5 on the following page).

> **"BY 2030, GLOBAL MIDDLE CLASS SPENDING WILL REACH $51 TRILLION, A FAR CRY FROM $21 TRILLION TODAY."**

Technology: Global trends toward trade liberalization are not the only reason for the fabulous gains of intra-emerging market trade. Unless it was cost effective, pure vertical integration from the top to the bottom of the supply chain would be the rule, not the exception. Instead improved shipping and communication technology translate to unprecedented precision in scaling and timing shipments. Manufacturers can reliably and profitably ship component parts from their specialized point of origin to a special assemblage location, only to then sell the product around the globe.

Chief among the technical innovations that made global trade possible was containerization. While the shipping port of today's cultural imagination comes naturally outfitted with gargantuan ships and looming mechanical cranes, it was not always that way. In fact, "early in the 20th century British and French railway companies experimented with methods of sealing goods in different sizes and shapes of boxes before transporting them…the lack of specialized capital equipment like specialized cranes for loading" made global trade as much a hassle for business as it was a help for business.[9] Improved shipping cranes alone accounted for a productivity boost of better than 40 times an average longshore gang. Technological improvements allow trade to flourish.

PRODUCTION LEADS TO DOMESTIC CONSUMPTION

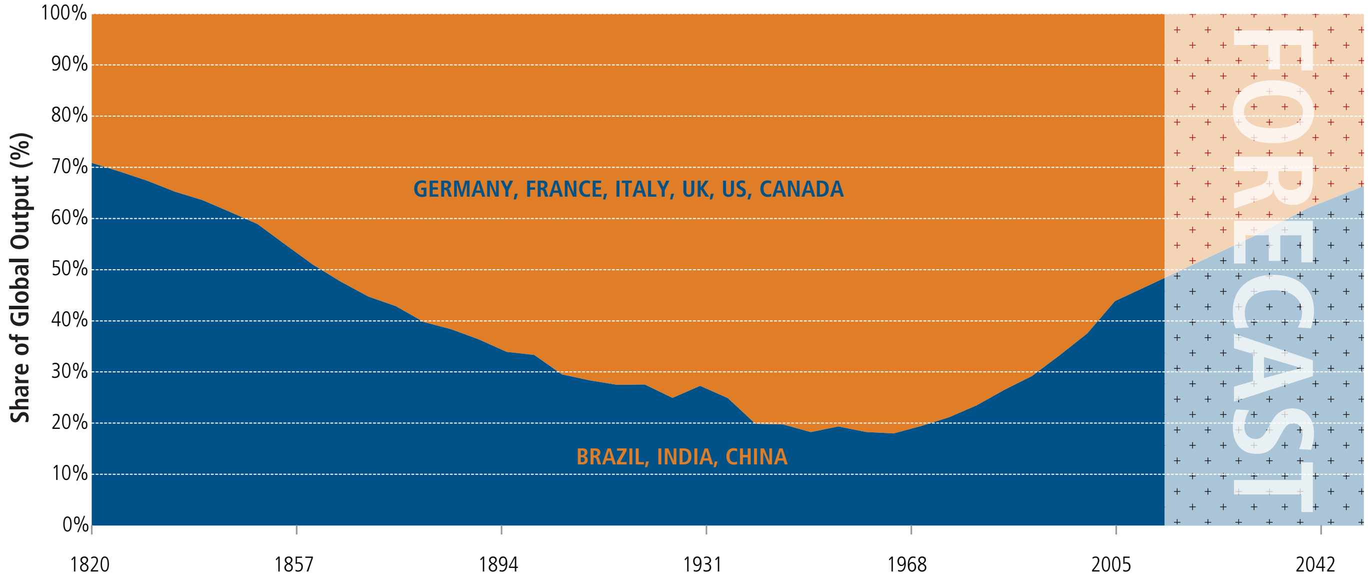
What follows increased productivity and superior value-added integration in the world economy? Domestic entrepreneurship and consumption in emerging markets. Entrepreneurship is already alive and well. In 2011 a network of 500 emerging market entrepreneurs created more than 150,000 jobs, generating over $4.1 billion.[10] University of Michigan economists report that, "pressure from foreign competition and linkages with foreign firms (within and outside of the country) improve domestic firms' innovative capacity and…that firms in more market oriented economies tend to innovate more."[11]

Domestic producers capable of innovating and supplying the right mix of goods will bring local consumers their desired products. The fruits of these labors will trade regionally, and the power of domestic markets will feed off one another (think of the virtuous cycle between Singapore and Hong Kong). And these emerging market trade connections (as we've loosely termed them) do not stop with ports and ships: "by 2011, Brazil had 53 bilateral health agreements with 22 African countries…between 2001 and 2008, countries and institutions from [emerging markets] met 47% of official infrastructure financing for Sub-Saharan Africa."[12]

The rising global middle class will move markets around the world. Case in point: more than 24 million bottles of cognac were shipped to China in 2012, approximately double the volume shipped in 2008. Today, China is the third-largest export market for cognac, which is produced in western France, behind the U.S. and Singapore.

In 2001 only 23% of the developing world labor market was middle class. Today that number is 42%, and rapidly rising. By 2020, the combined output of Brazil, India and China will surpass the G7 (minus Canada).[13] By 2030, global middle class spending will reach $51 trillion, a far cry from $21 trillion today.[14] Instead of today's multi-national corporations providing low-skilled, but comparatively better paid jobs, local entrepreneurs will drive the extraordinary boost in emerging market consumption."[15]

fig. 6 THE HISTORY OF GLOBAL OUTPUT: DOESN'T REPEAT, BUT RHYMES



Source: United Nations

FROM TRADE TO FINANCIAL DEEPENING

The rise of the global middle class impacts investors. A closer look at the emerging markets reveals important changes in financial markets, in addition to the economic changes underway. The corporate bond market, still nascent in many developing countries, provides a unique look at how these countries are developing and how global investors are responding.

But we have been here before. Indeed, in London, in 1868, the oldest surviving closed end investment fund opened—"the Foreign and Colonial Investment Trust." Over the course of the second half of the 19th century, this fund, originally composed of "well-selected government stocks...added colonial government securities and then US railroad stocks. After 1890 the fund moved to a 90% exposure to the New World outside Europe."[18]

Fast forwarding to the first quarter of 2013, 116 individual emerging market US dollar bond issues came to market, averaging $539 million in size. This compares to 101 deals in 2012 averaging $706 million and 71 deals averaging $735 million in 2011 (i.e. increasing deal flow and smaller deals). Interestingly, 53% of the issuance (a majority!) was from non-investment grade issuers in 2013, versus 63% last year and 51% in 2011. While two years of data hardly implies a trend, these figures seem to corroborate what investors are seeing 'on the ground': an increase in first-time bond issuers, many of them non-investment grade, are conducting road shows with investors around the world, seeking to raise capital in the global US dollar debt market.

Emerging market issuance from the consumer and real estate sectors has increased over the last several years, from 18% of issuance in the first quarter of 2011 to 25% in 2013. Such changes in financial markets lubricate the economic gears which generate increases in consumers' discretionary income, allowing them to purchase more nonessential goods, such as animal-based protein for their diets, iPhones, health care and property.

Below we look at two thriving emerging market companies, both of whom recently brought dollar denominated debt deals to US fixed income investors interested in taking advantage of fantastic growth.

HOW PERUVIAN MACKEREL CONSUMPTION IN NIGERIA COULD SIGNAL EMERGING MARKET ADOLESCENCE

Pesquera Exalmar ***(Peruvian fishmeal and fish oil producer)***

Pesquera Exalmar, the fourth largest fishmeal and fish oil producer in Peru in terms of volume, issued US dollar-denominated debt for the first time in late January 2013 in order to pay down short term bank debt and add cash to its balance sheet. This cash may be used in opportunistic acquisitions of smaller companies within the industry.

Benefitting from an optimal anchovy habitat off its coast—the Humboldt Current, a cold, low-salinity current that flows in a northwestward direction along

South America's coast promotes nutrient-rich water – Peru is the largest producer and exporter of fish meal in the world, accounting for roughly 40% of the global fish meal market. Fish meal is used as feed in both aquaculture (shrimp, marine fish and salmonids) and livestock production (chicken and hogs) throughout the world; over half of Pesquera's fish meal is sold to China. Solid growth in fish meal production in recent years is due to increasing demand for fish and meat as a source of protein, supported by population growth and gains in per capita income in developing countries.

Seeking to diversify its business and capitalize on the growing demand in emerging markets for protein, Pesquera Exalmar recently began harvesting mackerel, squid and mahi mahi for direct human consumption. Sixty-four percent of sales within this fast growing segment are to Nigeria, which grew at an average rate of 9.2% in the first decade of the twenty-first century.

Tower Bersama *(Indonesian cell phone tower owner)*

Tower Bersama Infrastructure Group Indonesia issued an inaugural 5-year US dollar bond in March 2013, the proceeds of which were used to refinance existing bank debt. The company requires capital on an ongoing basis to fund the construction and maintenance of cell phone towers that serve Indonesia's 283 million mobile subscribers. The company is benefitting from the increased usage of smart phones, as increasing per capita incomes enable consumers to spend more on mobile phone services.

Market forecasts indicate that 3G mobile subscriptions in Indonesia may grow from 17% of mobile subscriptions in 2012 to 70% in 2016, driven by strong demand for mobile data, such as Facebook, which 3G (and 4G) can better support. For reference, more than 50% of the population is below 30 years of age and engage with friends and family through social media. As of February 2013, Indonesia had the fourth largest number of Facebook users and the fifth largest number of Twitter accounts. Recent data indicates that 49% of Indonesia's internet users use mobile devices to access the internet, which will provide tailwinds to the telecom industry.

JUST THE BEGINNING

Today's emerging markets are no longer the speculative province of specialists, as they were in the 1980s. Nor are they a temporary investment fad as many have worried recently (See Figure 6). As service trade picks up to complement the already burgeoning supply-chain based trade, the networks of production will create a surfeit of new consumption opportunities in the emerging world.

Mark Twain opined that while history does not repeat, it rhymes. The rhythm in global growth is investors moving abroad. In some sense, investors will be comforted to know that in London in the late 1800s the first closed end fund debuted to take advantage of global growth (in that era, the United States represented a youthful emerging market). With economic improvement comes financial market deepening. Just as early investors found opportunities in the US, those participating in emerging market fixed income today can rest easier knowing that emerging markets are a force very much here to stay.

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4 *Ibid.*

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Exchange–Traded Funds: Yesterday, Today, Tomorrow

The financial world forever changed in the spring of 1993.

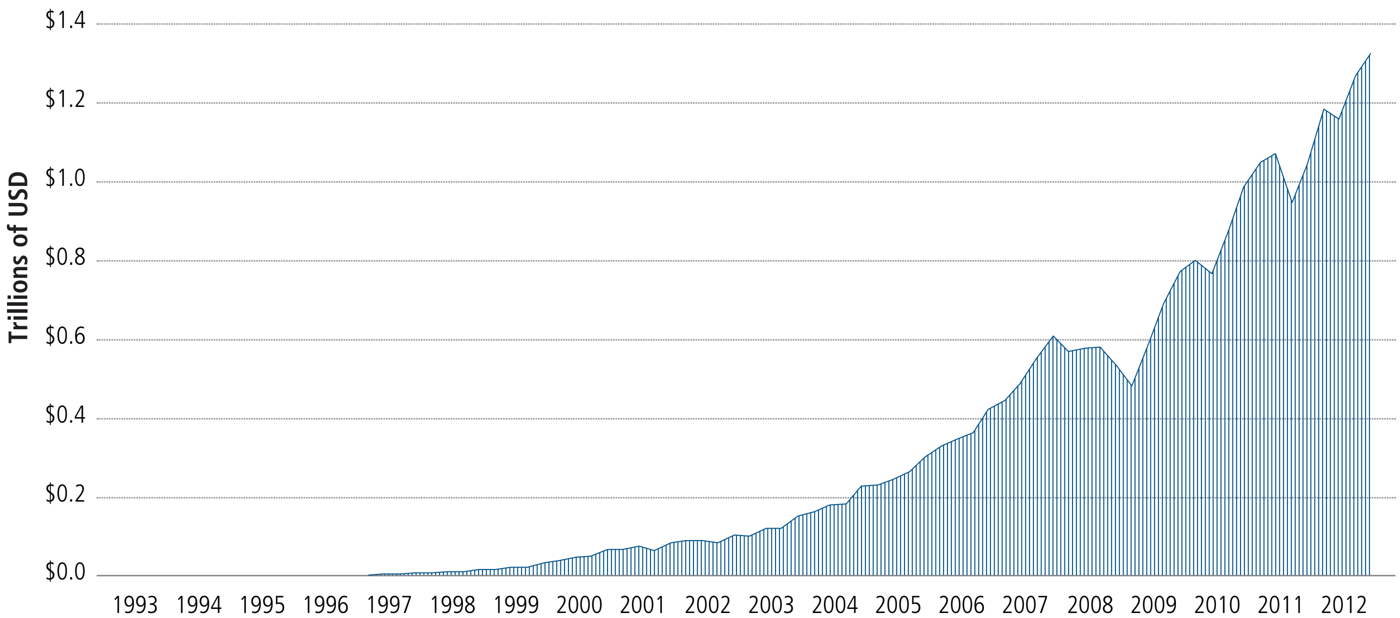
No, not because President Clinton embarked on his first term in office. The spring of 1993 marked the launch of the first exchange-traded fund or ETF. From a small and esoteric asset class with only one equity product, ETFs have grown to over 1,200 offerings, covering almost every asset class and boasting assets of $1.3 trillion (See Figure 7). While a relatively small sum when compared to the $10.8 trillion mutual fund industry, the gap is quickly narrowing: in 2012, ETF assets grew by 27% compared to a year earlier.

But with rapid growth comes growing complexity—complexity that deserves greater scrutiny from investors and analysts. What began as a method of replicating the S&P 500 index morphed into a universe consisting of a variety of passive, index-based strategies meant to mimic a particular index. There are ETFs tracking specific industries, such as biotech or semiconductors, as well as those that track international markets and countries, such as Europe and Japan. There are even ETFs in the marketplace that provide inverse moves and leverage, double and triple times the daily move of a particular asset/index. As ETFs become more complex, investors need to be wary of the details of the structures and strategies of these ETFs (See Figure 8, next page).

THE ABCs OF ETFs

Similar to a mutual fund, an exchange-traded fund is an ownership interest in a pool of securities that are traded on stock exchanges. Unlike mutual funds (which report holdings quarterly), the Securities & Exchange Commission (SEC) requires all ETFs to disclose information about their holdings on a daily basis.

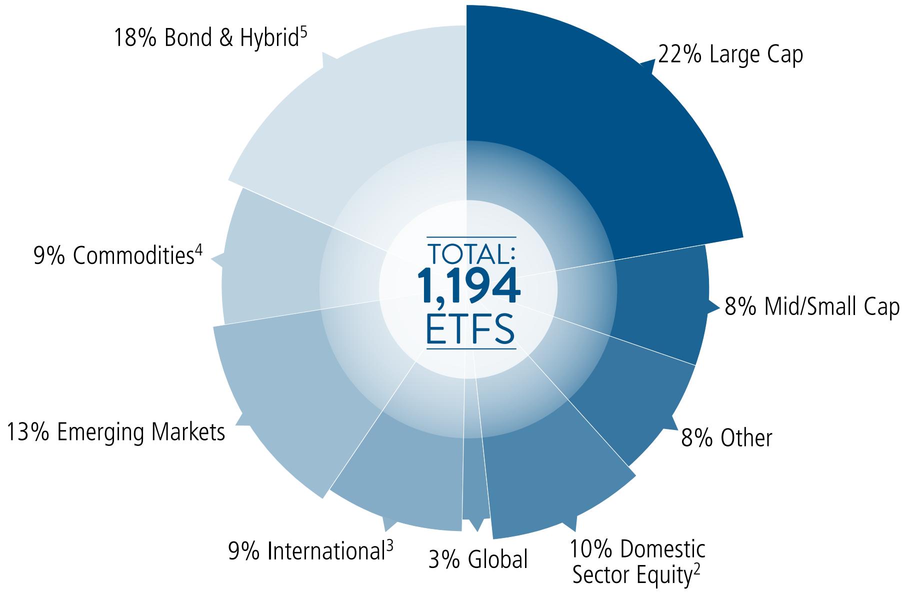
fig. 7 ETF ASSETS: FROM $0 TO $1.3 TRILLION IN 20 YEARS



Source: Federal Reserve

ETFs may be bought and sold throughout the trading day at current market prices, which may or may not be at the portfolio's market value, known as net asset values (NAVs). This is very different from mutual funds which are purchased and redeemed at NAV at the market close. For example, if an investor in the S&P 500 believes the FOMC decision midday will lead to a market rally, the SPY (S&P 500 ETF) investor may increase his exposure prior to the report. The S&P 500 mutual fund investor, on the other hand, would have to wait until the market close to add to his holdings. Greater control over market timing attracts many to ETFs, but investors must remember that there are risks in execution associated with this flexibility.

fig. 8 ETFs[1] GIVE EXPOSURE ACROSS ASSET CLASSES AND SECTORS



1 Data for ETFs that invest primarily in other ETFs are excluded from the totals.
2 This category includes funds both registered and not registered under the Investment Company Act of 1940.
3 This category includes international, regional, and single country ETFs.
4 This category includes funds—both registered and not registered under the Investment Company Act of 1940—that invest primarily in commodities, currencies, and futures.
5 Bond ETFs represented 99.73 percent of the assets in the bond and hybrid category in 2012.

Source: Investment Company Institute

One of the risks in execution is ETF market pricing. ETF prices fluctuate around the NAV and may trade at premiums or discounts to NAVs due to supply and demand dynamics. However, ETFs have a creation/redemption mechanism in place to help keep market prices close to NAVs. Authorized participants (APs), typically the largest broker dealers, can create and redeem shares of an ETF. APs create shares of the ETF by delivering a basket of the underlying securities to the ETF trust in exchange for shares of the ETF. Conversely, APs can redeem shares of the ETF by delivering shares of the ETF to the trust in exchange for the basket of underlying securities. These actions allow APs to arbitrage any price discrepancies between the ETF and underlying securities, and thus keep market prices close to NAVs.

But this does not mean that ETF prices cannot reach extreme discounts or premiums. In fact, in situations of high volatility and event risk, the simple economics of supply and demand dictate market prices. In continuing the prior example, the SPY investor buys his shares prior to the Federal Open Market Committee (FOMC) monetary policy decision, but other market participants are buying as well, which leads to an execution price above fair value for the underlying securities. In contrast, the S&P 500 mutual fund holder avoids overpaying, relative to intra-day fluctuations, since his trades execute at the NAV on the market close.

> **"IT IS ESTIMATED THAT 3.4 MILLION U.S. HOUSEHOLDS (OR 3%) OWNED ETFS IN 2012."**

BEYOND ETFs

In the universe of ETFs, there are other types of strategies and structures that investors may encounter. A notable structure prevalent in the marketplace is the exchange-traded note (ETN), which is very similar to a traditional ETF. ETN buyers are noteholders on the senior debt of the ETN issuer and not on a pool of securities like an ETF. In other words, ETNs have counterparty risk with the issuer, such as Hypothetical Capital. If Hypothetical

Capital was to declare bankruptcy, the ETN holder may not receive the return he was promised.

Derivative ETFs should also be approached cautiously by investors. While most ETFs invest in a basket of cash securities, derivative ETFs purchase futures, options, and swaps for market exposure. This may cause differences in performance from the spot market versus the derivatives market. For example, an oil ETF invests in oil futures, which have embedded costs, such as storage costs, priced in the contract. Therefore, oil futures performance will deviate from current spot price performance. As an ETF investor, it is imperative to know how the ETF gains its market exposure.

GROWTH OF THE ETF MARKET

Investor demand for ETFs has rapidly grown over the past decade as institutions and individuals have discovered ETFs to be a convenient and effective vehicle for participating in or hedging against broad market movements. Another explanation for the growth in the ETF market is the shift in the financial advisory business from a transaction/commission-based model to a fee-based one. In 2000, only 20% of assets with financial advisors were fee-based. But now, about 60% of assets are fee-based and advisors are more inclined to push low cost investment tools instead of commission-paying products. Thus the ETF market with its low expense ratios and greater flexibility has been a direct beneficiary of these changes.

Since 2002, when ETF assets totaled $100 billion in 113 securities, the ETF market has grown 15 times to $1.5 trillion in over 1,200 securities. In terms of net issuance (the total dollar amount of shares created minus the total dollar amount of shares redeemed), investor interest has been consistently over $100 billion per year for the last six years with a peak of issuance of $177 billion in 2008. Much of the recent demand has been in fixed income and international equity ETFs as investors search out convenient access to traditionally institutional markets.

Despite $70 billion into fixed income ETFs in 2012, the largest portion of ETF assets sits in large-cap domestic equities. As of 12/31/12, large-cap domestic equities accounted for 22% ($293 billion) of total ETF assets. The second and third largest categories were fixed income with 18% ($244 billion) and emerging market equities with 13% ($169 billion) of total assets.

ETFs TODAY AND TOMORROW

ETFs were initially marketed to institutional investors for use in trading strategies, such as hedging and managing cash positions. However, ETFs are now widely held in both institutional and retail accounts. ETFs appeal to investors for their transparency, diversification benefits, and low fee structure. It is estimated that 3.4 million US households (or 3%) owned ETFs in 2012.

Investment management firms are introducing actively managed ETFs, along with active management fees. A number of ETFs come disguised as passive investments with custom designed indices to track, thereby deflecting any questions of security selection. And not all index-based ETFs have low expense ratios, in fact, many ETFs charge higher fees than the average mutual fund. Academic research supports the conclusion that active ETF management actually decreases performance: "active ETFs have greater tracking error [versus a benchmark] than passive ETFs." Not only do some active ETFs charge more, their performance in tracking an index is worse than that evidenced by passive equivalents.

As the demand for ETFs continues to grow and the ETF universe continues to expand, it is important to be knowledgeable on the intricacies of these investments. An investor cannot assume an ETF to be a passive, index-based, low fee investment vehicle. Each week, the diversity of the ETF universe increases, as new ETF products come to market. However, with the right amount of research and analysis, an investor can successfully discover the right ETF to help achieve their investment objective.

In the 20 years since ETFs stormed onto the financial scene, their intra-day liquidity and broad coverage have proved a potent and attractive combination for investors. While much has changed since 1993, the growth and popularity of ETFs is here to stay.

SOURCES

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