

The Fundamentals that Drive the Eurex European Equity Index and Interest Rate Futures Markets

Introduction

The purpose of this report is to provide a deeper understanding of the fundamental factors that drive the European equity index and interest rate futures markets. Market participants who fully understand these fundamentals should be more successful in their trading and hedging activities.

This report covers Eurex's equity index and interest rate futures markets, which are just part of Eurex's overall product complex. The chart on the right illustrates the sharp growth in the combined open interest of the Eurex equity and interest rate derivatives markets. Eurex had 63 million outstanding equity and interest rate contracts as of March 2010.

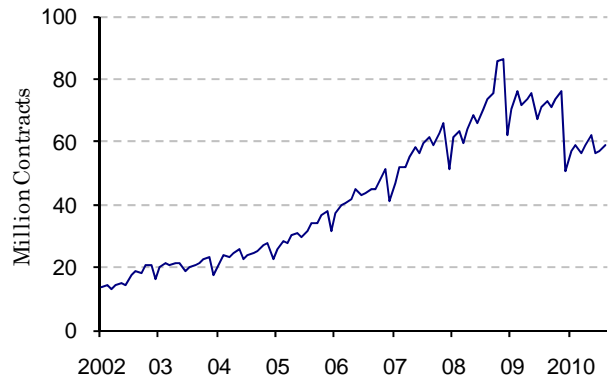
The most popular Eurex equity index futures contract is the EURO STOXX 50[®] Index Futures, which has open interest of about 2 million contracts in futures and about 40 million contracts in options. The most popular Eurex fixed income products are the Euro-Bund, Euro-Bobl and Euro-Schatz Futures products, which together have open interest of more than 3 million contracts in futures and more than 2 million contracts in options.

The Eurozone

When trading the Eurex equity index and interest rate markets, it is important to understand the economic, political, and geographic backdrop of these markets. The euro area, which is commonly referred to as the "eurozone," is the group of sixteen countries that have agreed to use the euro as their national currency (see the list on the next page). The eurozone is a subset of the European Union (EU), which is the political group of 27 European countries that have agreed to a range of common political governance measures. The EU took a big step forward toward streamlining and strengthening the governance process by ending eight years of wrangling and finally implementing the Treaty of Lisbon as of December 1, 2009.

Of the 27 countries in the European Union, eleven do not use the euro. Of those eleven, eight are obligated

Eurex Equity & Interest Rate Open Interest



to enter the eurozone under the 1992 Maastricht Treaty, which set out the terms for European Monetary Union (EMU). UK and Denmark have explicit opt-out provisions that allow them to remain out of the eurozone indefinitely. Sweden claims an opt-out from the eurozone based in part on a public referendum vote in 2003 in which voters rejected the euro.

The "euro group" is the informal name given to the group of finance ministers from the eurozone countries that periodically meet to discuss fiscal, currency, and regulatory issues. The euro group represents the interests of the eurozone countries that fall under the purview of the finance ministers' portfolio. The president of the euro group is currently Jean-Claude Juncker.

Eurozone Enlargement—EU finance ministers in August 2010 approved Estonia as the 17th member of the eurozone effective January 1, 2011. Other candidates are eager to join the eurozone for protection following the global financial crisis in 2008-09. However, the global financial crisis and recession that began in 2008 caused budget deficits to balloon and made it more difficult for countries to join the eurozone. For example, Denmark's

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government favors joining the eurozone but the Danish economy does not currently meet all the economic criteria and, in any case, the government must first hold a public referendum to secure public approval for joining the eurozone. The global financial crisis and European recession significantly slowed the process of EU and eurozone enlargement.

Eurozone economy—The eurozone economic bloc is a major player in the global economy, as seen in the table on the next page. The eurozone’s population of 329 million is larger than the U.S. population of 308 million and is more than 2½ times as large as Japan’s population of 128 million. Despite the eurozone’s larger population, however, its GDP of 9.0 trillion euros is about three-quarters of the size of the U.S. GDP of 12.6 trillion euros. Still, that makes the eurozone the second largest economy in the world behind the U.S. The eurozone’s per capita GDP of €27,300 is well below the U.S. figure of €36,900 and is slightly above Japan’s per capital GDP of €26,000.

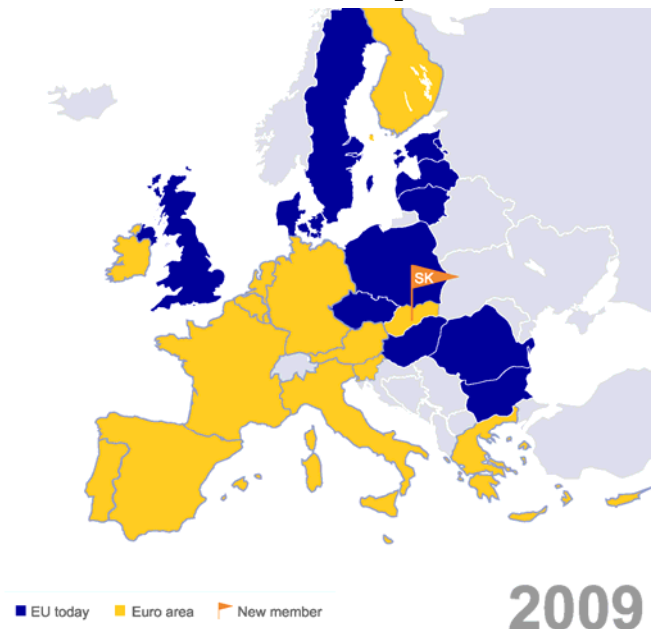
Industry (manufacturing and construction) accounts for more of the eurozone GDP (24.1%) than the U.S. (21.8%) but less than Japan (28.5%). This makes the eurozone economy more sensitive to the global business cycle since the manufacturing and construction industries are much more closely tied to the business cycle than are services. In addition, exports are much more important to Europe than to the U.S. Specifically, exports in the eurozone account for 19.6% of GDP, almost double the U.S. figure of 11.1%. This makes the eurozone economy more sensitive than the U.S, not only to foreign demand for exports, but also to exchange rate fluctuations.

European households earn substantially less disposable income than U.S. households (18,500 euros vs 28,500 euros, respectively), but they are much better savers. Eurozone households save 15.6% of their disposable income versus only 7.0% for U.S. households. European households hold fewer financial assets than do U.S. households (299% vs 413% of disposable income, respectively), but they also enjoy a lower debt level (97% vs 124% of disposable income, respectively).

The Euro

The euro is the common currency used by the sixteen eurozone countries. Several other states that are not

The Eurozone vs European Union



Source: European Central Bank

Eurozone countries (16 countries): Germany, France, Italy, Spain, Netherlands, Belgium, Austria, Greece, Ireland, Finland, Portugal, Slovakia, Luxembourg, Slovenia, Cyprus, Malta (Estonia will be the 17th member effective January 1, 2011).

European Union countries not in Eurozone (11 countries): Denmark, Sweden, UK, Poland, Czech Republic, Bulgaria, Hungary, Romania, Estonia, Latvia, Lithuania.

members of the eurozone or the European Union also use the euro. Monaco, San Marino, and the Vatican all use the euro under a formal agreement with the EU. Andorra, Kosovo and Montenegro have also officially adopted the euro as their national currency, although that usage has not been officially sanctioned by an agreement with the EU.

The euro came into existence on January 1, 1999, and bank notes were introduced on January 1, 2002. In its short 11-year history, the euro has become the world’s second largest reserve currency and the second most traded currency after the dollar.

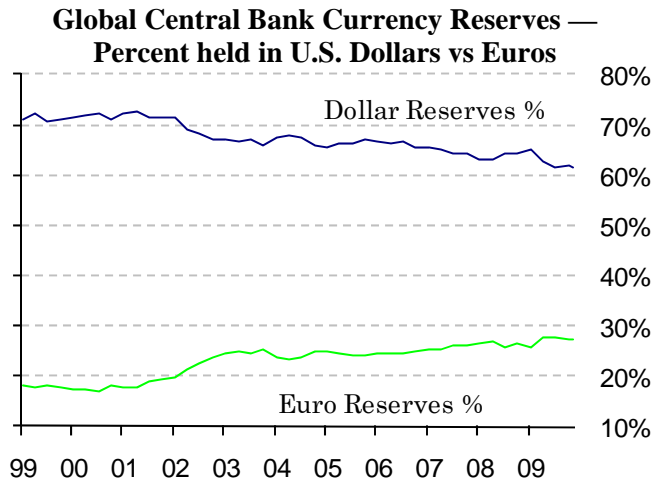
The euro as a common currency offered several advantages to the eurozone countries: reduced transaction costs through the elimination of currency conversion costs, elimination of exchange rate risks, security of purchasing power, and product price transparency for consumers within the eurozone.

The underlying strength of the euro is a key issue for global investors. Global investors will only put their cash into the euro-denominated European stock and bond markets if they have confidence that the value of the euro will be preserved. In this regard, the euro has been a success, at least until recent concerns about a possible debt default in Greece. The euro showed some weakness in the first few years of its existence in 1999-2001, but has since shown strength and is currently near US\$1.30 per euro.

The general success of the euro can be directly attributed to the respect earned by the European Central Bank in the marketplace through its tough but sensible monetary policy. The ECB adopted the hawkish approach of the German central bank—the Bundesbank—which was well-known for its monetarist and



Key Characteristics of Eurozone versus the United States and Japan					
	Units	Eurozone	EU	U.S.	Japan
Population, GDP, Labor					
Population	millions	329	500	308	128
GDP	PPP, EUR trillions	€9.0	€12.6	€11.3	€3.3
GDP per capita	PPP, EUR thousands	€27.3	€25.2	€36.9	€26.0
Labor Productivity	Eurozone = 100	100.0	91.6	132.7	91.3
Value Added by Economic Activity					
Agriculture, Fishing & Forestry	% of total	1.6%	1.7%	1.3%	1.4%
Industry (including construction)	% of total	24.1%	24.4%	21.8%	28.5%
Services	% of total	74.2%	74.0%	76.9%	70.1%
Saving & Investment					
Gross Saving	% of GDP	18.5%	17.7%	14.5%	27.0%
Gross Fixed Capital Formation	% of GDP	19.7%	19.2%	17.7%	23.1%
Households					
Gross Disposable Income per Capita (HHGDI)	PPP, EUR thousands	€18.5	€16.8	€28.5	€18.5
Gross Saving	% of HHGDI	15.6%	13.9%	7.0%	9.0%
Financial Assets Held	% of HHGDI	299%	na	413%	460%
Gross Debt Outstanding	% of HHGDI	97%	na	124%	104%
Government					
Expenditure	% of GDP	50.7%	50.7%	37.5%	35.8%
Surplus (+) or Deficit (-)	% of GDP	-6.2%	-6.8%	-11.1%	-2.1%
Gross Debt Outstanding	% of GDP	78.7%	73.6%	67.6%	162.2%
External					
Exports of goods & services	% of GDP	19.6%	13.4%	11.1%	13.3%
Imports of goods % services	% of GDP	18.8%	13.6%	13.8%	12.8%
Current Account Balance	% of GDP	-0.6%	-1.1%	-2.7%	2.8%
Source: European Central Bank Statistics Pocket Book (2009 data)					



no-nonsense approach to monetary policy and its anti-inflation resolve. This anti-inflation resolve is critical for fostering market confidence in the euro as a store of value.

Global central banks were confident enough about the euro that the percentage of global reserves held in euros climbed to a record high of 27.7% in Q3-2009, although that figure fell off slightly to 27.4% in Q4-2009 and to 27.2% in Q1-2010. The U.S. dollar is still the world's dominant reserve currency since 61.5% of world reserves are held in dollars. Nevertheless, global central banks are trying to slowly diversify their risks by moving some of their reserves away from dollars and the euro has been the main beneficiary of that diversification effort. After the euro, the British pound and the yen are used much less as reserve currencies with only 4.3% and 3.1% shares of global reserves, respectively. That means there is no serious challenger at present to the euro as the world's second favorite reserve currency despite the recent European debt crisis.

The fact that a large amount of reserves are being held in euros is good news for the European government bond market since those reserves are usually parked in euro-denominated European government bonds. This tends to keep European bond yields down and that is a favorable factor for the European economy.

Eurozone Fiscal Challenges

The euro is different from the usual type of currency because it is not the currency of a single nation-state, but is rather the currency of a group of nation-states. The eurozone countries have agreed to a common

monetary policy, which was necessary to create a common currency. However, the eurozone countries are still separate nation-states that have separate national government budgets and fiscal policies.

The eurozone countries recognized this problem when they formed the currency union and they agreed to the Stability and Growth Pact, which specifies that national annual budget deficits cannot exceed 3% of GDP and that the national debt cannot exceed 60% of GDP. Unfortunately, however, there is no serious enforcement mechanism for these deficit and debt ceilings.

The lack of an effective budget deficit enforcement mechanism did not present any major problems for the eurozone in the first ten years of its existence. However, the global financial crisis and recession that began in late 2008 caused government budget deficits to soar and that laid bare the euro's Achilles heel of the lack of fiscal unity.

During spring 2010, an all-out European debt crisis emerged when four countries emerged to seriously threaten the fiscal discipline of the eurozone: Greece, Portugal, Spain, and Ireland. The graphs on the next page illustrate the eurozone government budget deficits and outstanding debt levels as a percent of GDP. Greece was the main culprit and its serious budget situation caused the euro to decline in early 2010. The European Commission, which is the EU's executive body, forecasted in November 2009 that the Greek government budget deficit in 2010 would be huge at 12.2% of Greek GDP, but by May of 2010 the European Commission cut that estimate to 9.3% of GDP due to Greek austerity measures.

The Greek debt problems caused a crisis for the eurozone because it sparked talk that Greece might default on its debt and might even have to exit from the eurozone and go back to using the Greek drachma. After weeks of wrangling, EU political leaders finally reached an agreement to form a credit facility in conjunction with the International Monetary Fund (IMF) to provide financing to Greece. In addition, the eurozone created a 440-billion-euro stand-alone credit facility called the "European Financial Stability Facility," which has the authority to raise debt on its own and provide loans to any eurozone countries that may run into financial trouble. The EU/IMF bailout of Greece, combined with the Financial Stability Facility, finally succeeded in tamping down worries

about an imminent default by Greece or any other eurozone country, thus ending the worst of the European debt crisis and relieving some of the downward pressure on the euro.

European Central Bank

The European Central Bank (ECB) is responsible for administering monetary policy in the eurozone. Other



ECB Eurotower in Frankfurt, Germany

ECB duties include holding foreign reserves, conducting foreign exchange operations, and promoting the smooth operation of bank payment systems. The ECB coordinates and controls the eurosystem, which includes the national central banks (NCBs) of the respective eurozone nations such as the Bundesbank and Bank of France.

The ECB by treaty is guaranteed independence from other institutions in the EU and from the member states. The ECB’s primary mandate is to “maintain price stability.” This is a narrower and more hawkish mandate than the U.S. Federal Reserve, which is charged not only with price stability but also with maximizing employment.

The decision-making bodies of the ECB are the Governing Council, the Executive Board, and the General Council. The Governing Council is the main body that formulates monetary policy and decides on key

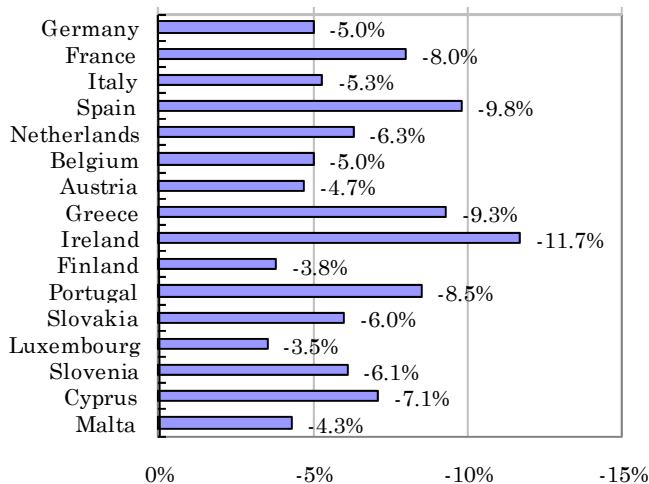
ECB interest rates. The Executive Board is in charge of executing policy determined by the Governing Council and handles the day-to-day operations of the ECB. The General Council issues reports on convergence and contributes to the ECB’s collection of statistical data and reporting activities.



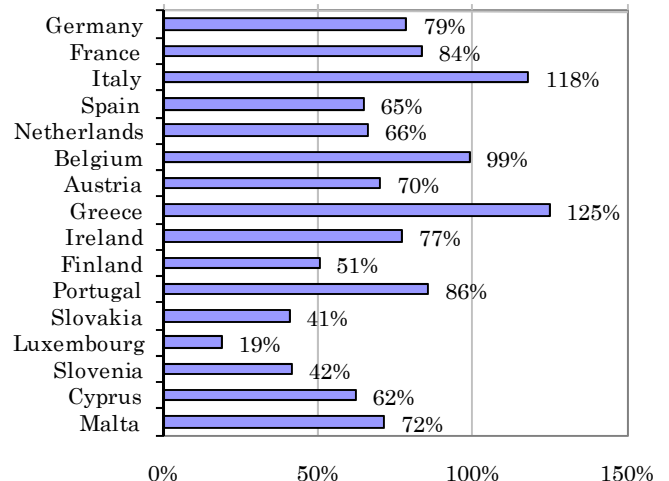
ECB Governing Council meeting

The ECB Governing Council consists of the six members of the Executive Board, plus the governors of the national banks of the sixteen eurozone countries. The ECB Governing Council usually meets twice a month. At the first meeting of the month, which is usually held on the first Thursday of the month, the Governing Council makes its monthly monetary policy decision. This decision is typically announced to the public at around 1:45 PM Central European Time (CET), which equates to 7:45 AM U.S. Eastern time and 8:45 PM Tokyo time, depending on fluctuations in daylight savings time. Shortly after the conclusion of the meeting, the ECB President holds a press conference to explain the ECB’s decision and general policy stance. ECB Council members generally follow the unwritten rule to refrain from commenting about monetary policy in the week before an ECB policy meeting. The markets do not pay any attention to the second Governing Council meeting of the month, which focuses mainly on internal business issues.

2010 Government Budget Deficit as % of GDP



2010 Government Debt as % of GDP



Source: European Commission—May 2010 Forecasts

The president of the ECB is currently Jean-Claude Trichet. Mr. Trichet's term ends on October 31, 2011. Current ECB Council Member and Bundesbank President Axel Weber, who has a reputation as an anti-inflation hawk, is presently thought to have the best chance of succeeding Mr. Trichet when his term expires.

ECB Monetary Policy

In pursuing its overall monetary policy goals, the ECB has a set of policy instruments that include conducting open market operations to adjust reserves, offering standing facilities for banks, and requiring banks to hold minimum reserves to back their loans.

ECB Governing Council Members (22)	
Executive Board Members (6)	
Jean-Claude Trichet	ECB President
Vítor Constâncio	ECB Vice-President
Lorenzo Bini Smaghi	Exec. Board Member
José Manuel González-Páramo	Exec. Board Member
Jürgen Stark	Exec. Board Member
Gertrude Tumpel-Gugerell	Exec. Board Member
National Central Bank Governors (16)	
Guy Quaden	Belgium
Axel A. Weber	Germany
Patrick Honohan	Ireland
Georgios Provopoulos	Greece
Miguel Fernández Ordóñez	Spain
Christian Noyer	France
Mario Draghi	Italy
Athanasios Orphanides	Cyprus
Yves Mersch	Luxembourg
Michael C. Bonello	Malta
Nout Wellink	Netherlands
Ewald Nowotny	Austria
Carlos Costa	Portugal
Marko Kranjec	Slovenia
Jozef Makuch	Slovakia
Erkki Liikanen	Finland

Table note: Members as of September 2010. Please see ECB website at www.ecb.int for any changes.

The ECB conducts its main refinancing operations to adjust the level of reserves in the banking system and to keep the overnight interest rate near its target, with the ultimate purpose of controlling the money supply and maintaining price stability in the economy.

The ECB typically conducts its main refinancing operations at the “refinancing rate,” which is the ECB’s key policy rate. This policy rate provides a similar function as does the Federal Reserve’s federal funds target rate and the Bank of Japan’s target for the unsecured overnight call rate. The ECB’s 2-week refinancing rate is currently at 1.00%, where it has been since May 2009.

The ECB through its open market operations seeks to target the overnight market interest rate, which is called the Eonia® rate (an acronym for the “euro overnight index average”). The Eonia rate is the rate at which banks lend funds to each other on an unsecured basis in the interbank market and is comparable to the federal funds rate in the U.S. The Eonia rate is currently near 0.38%.

There are two other important ECB rates to watch: the deposit rate and the marginal lending rate. The ECB’s deposit rate is the interest rate the ECB pays banks for depositing excess reserves with the ECB in its *deposit facility*. The deposit rate, which is currently at 0.25%, usually acts as a floor for the overnight market interest rate since banks can deposit their excess reserves in this facility and thus do not have to lend those reserves to other banks at a rate lower than the deposit rate.

The marginal lending rate is the rate that banks pay to the ECB to borrow reserves from the ECB’s *marginal lending facility*. The marginal lending facility is similar to the Federal Reserve’s discount window in the U.S. The marginal lending rate is a penalty rate that is set above the main refinancing rate. The ECB’s marginal lending rate, which is currently at 1.75%, typically acts as a ceiling on overnight rates.

The ECB over the past two years has been forced to adopt an emergency monetary policy to deal with the global financial crisis and the ensuing recession in Europe. The ECB progressively cut its 2-week refinancing rate by an overall 325 basis points from 4.25% in September 2008 to 1.00% by May 2009 (see chart on the next page). The ECB also injected a

massive quantity of reserves into the banking system, which caused the ECB's assets on its balance sheet to balloon by about 500 billion euros (see the chart of ECB assets on the right).

The ECB in late 2008 also announced its "non-standard" policy of temporarily providing all the liquidity that banks required, as opposed to its usual policy of rationing credit to achieve its policy goals. In order to provide this liquidity, the ECB used unprecedented 6-month and 12-month lending operations to banks. The ECB in 2009 executed three 12-month lending operations to banks totaling 614 billion euros. Those operations were instrumental in calming the banking system crisis and forcing inter-bank rates to fall. The ECB in June 2010 completed its program of buying 60 billion euros worth of covered bonds in an effort to support the covered bond market, which are bonds that banks issue to provide mortgages and loans to public entities.

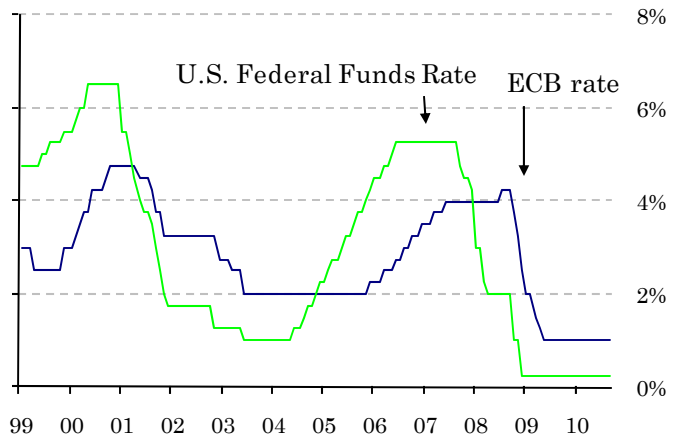
The ECB in early 2010 made some moves toward preparing for an eventual exit from its extraordinary liquidity measures. However, the European debt crisis in spring 2010 caused the ECB to drop any ideas of an exit. Instead, the ECB extended its promise of unlimited liquidity to banks to at least January 2011. The ECB in May also started a program of buying government bonds of troubled eurozone countries, trying to keep yield spreads down to more reasonable levels and trying to provide some confidence to the marketplace. Through August 2010, the ECB had purchased 61 billion euros worth of bonds. The ECB's current plan is to keep all its liquidity measures in place at least through the usual end-of-the-year squeeze and then reassess the situation in early 2011. The marketplace is not currently expecting an ECB rate hike in 2011, but the ECB in 2011 may start slowly scaling back its excess liquidity.

Eurozone Economic Data

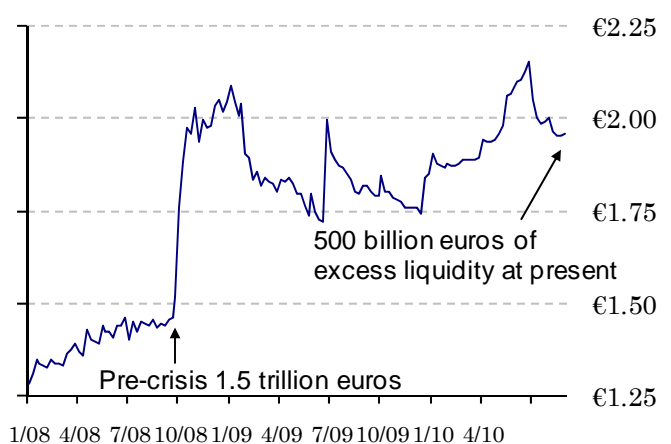
The economic data compiled by the EU and the national governments has improved significantly in the past decade in terms of quality, quantity and timeliness. Eurostat is the primary EU entity that is responsible for compiling macroeconomic data on the member countries. Eurostat's web site (see ec.europa.eu/eurostat/) contains a wealth of information on European economic data.

The chart to the right illustrates that just four countries—Germany, France, Italy and Spain—account

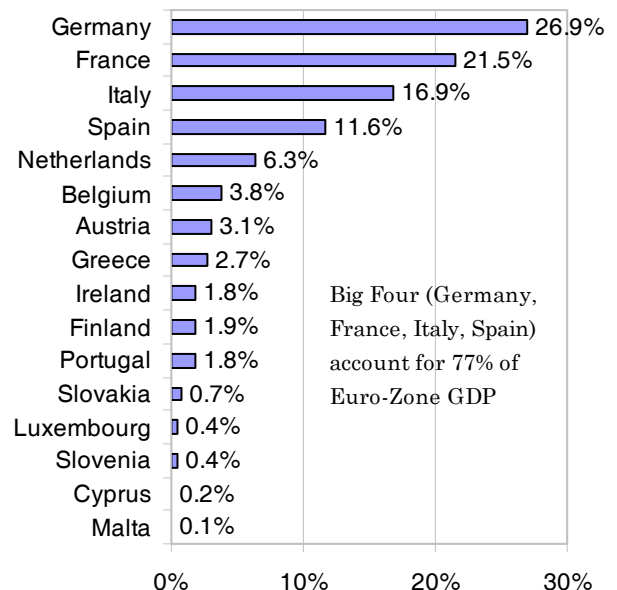
ECB Refinancing Rate vs U.S. Federal Funds Rate



ECB Balance Sheet Total Assets (trillion euros)



National GDP as % Share of Total Eurozone GDP



for more than three-quarters of eurozone GDP. Market participants therefore pay the most attention to the national economic data from these top four countries as well as the overall Eurozone data. Market participants do not pay as much attention to the national economic data from the smaller eurozone nations.

The table below illustrates the reaction of the European stock and bond futures markets to key economic reports for the 14½-month period from January 2009 through mid-March 2010. The fourteen indicators shown in this table are the indicators that have the most impact on the Euro-Bund market, according to a comprehensive report from the Royal Bank of Scotland entitled: “What Moves the European Bond Market?” (March 2007). The table shows the average of how much the Eurex EURO STOXX 50® Futures and Euro-Bund Futures moved in the 10 minutes following the release of the economic report in question.

It is perhaps surprising that eight of the fourteen economic reports with the most impact on the European equity index market are U.S. reports and not European reports. This finding is consistent with other

academic studies on the issue. Three reasons have been offered to explain this phenomenon: (1) the U.S. economy is the world’s largest economy and therefore has the largest impact on the global and European business cycles, (2) eurozone economic data tends to be released later than the U.S. data, and (3) there is some correlation between monetary policy responses from the ECB and the Federal Reserve, meaning that U.S. economic data that influences a change in Federal Reserve policy can also influence ECB policy.

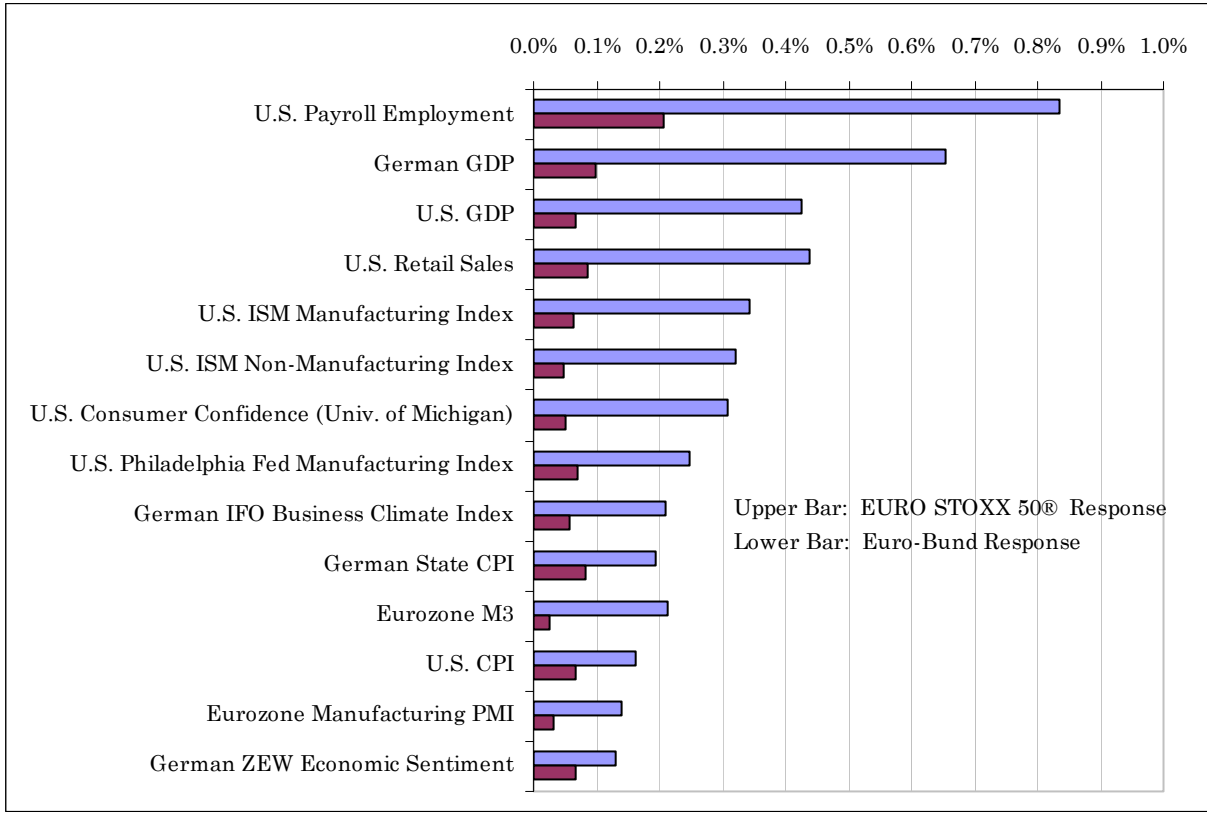
The national governments and Eurostat have taken steps to ensure that economic data is safeguarded and is not leaked before the official release time. An academic study published by the ECB entitled “Which News Moves the Euro Area Bond Market,” found that over the course of the study period (1999-2005) there was “no compelling evidence of macroeconomic statistics being released early or of alleged leakages, with one notable exception, the German unemployment figures.” In more recent years, allegations of leaks of economic data have largely disappeared, even for the German unemployment data.

European Market Impact (10 minutes) from Top Market-Moving Economic Reports

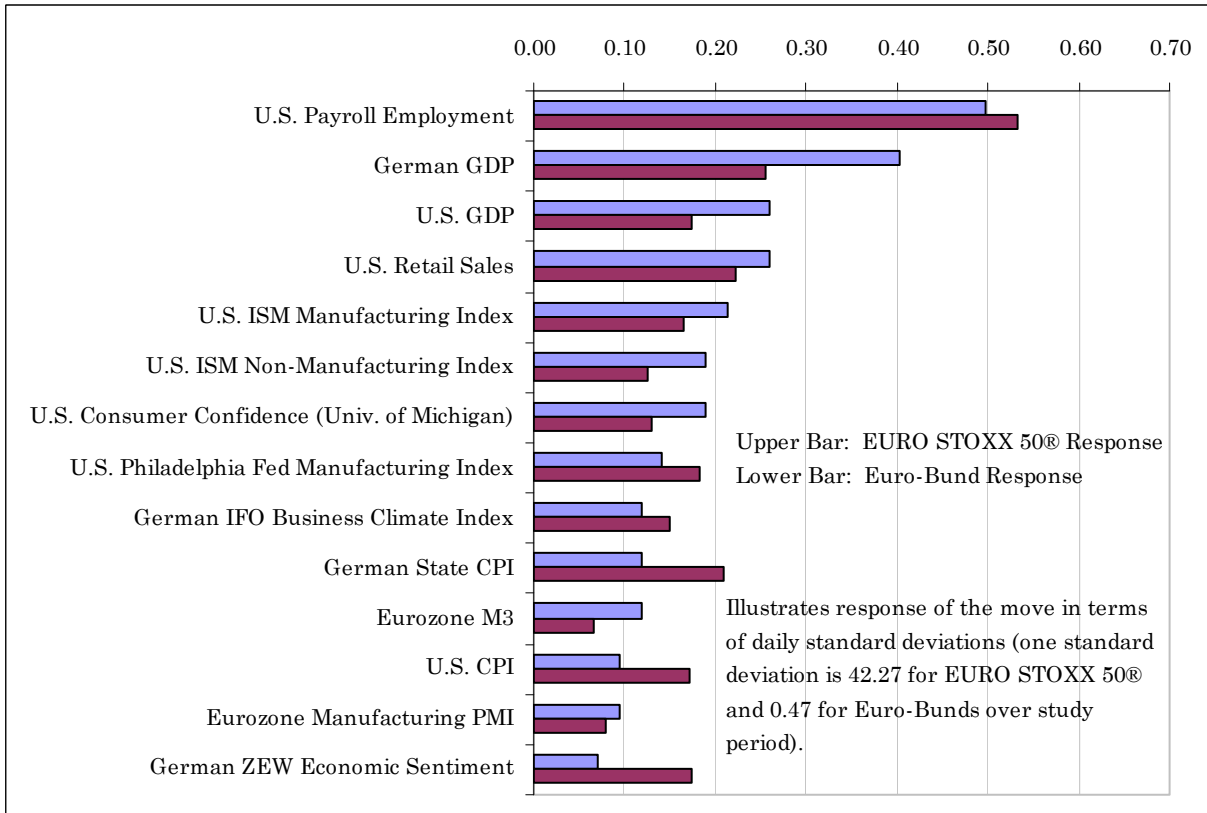
Economic Indicator	EURO STOXX 50® Futures			Euro-Bund Futures		
	10-Minute Change			10-Minute Change		
	Points	Percent	Std Devs	Points	Percent	Std Devs
U.S. Payroll Employment	21.00	0.83%	0.50	0.25	0.21%	0.53
German GDP	17.00	0.65%	0.40	0.12	0.10%	0.26
U.S. GDP	11.00	0.42%	0.26	0.08	0.07%	0.17
U.S. Retail Sales	11.00	0.44%	0.26	0.11	0.09%	0.22
U.S. ISM Manufacturing Index	9.00	0.34%	0.21	0.08	0.06%	0.17
U.S. ISM Non-Manufacturing Index	8.00	0.32%	0.19	0.06	0.05%	0.13
U.S. Consumer Confidence (Univ. of Michigan)	8.00	0.31%	0.19	0.06	0.05%	0.13
U.S. Philadelphia Fed Manufacturing Index	6.00	0.25%	0.14	0.09	0.07%	0.18
German IFO Business Climate Index	5.00	0.21%	0.12	0.07	0.06%	0.15
German State CPI	5.00	0.19%	0.12	0.10	0.08%	0.21
Euro-Zone M3	5.00	0.21%	0.12	0.03	0.03%	0.07
U.S. CPI	4.00	0.16%	0.09	0.08	0.07%	0.17
Euro-Zone Manufacturing PMI	4.00	0.14%	0.09	0.04	0.03%	0.08
German ZEW Economic Sentiment	3.00	0.13%	0.07	0.08	0.07%	0.17
Average across all reports:	9.00	0.32%	0.21	0.09	0.07%	0.18

Table Notes: 1. Covers economic releases from January 2008 through mid-March 2010.
 2. "Std Devs" column shows the point-change response in terms of the number of standard deviations. One daily standard deviation over the period averaged 42.27 points for the EURO STOXX 50® and 0.47 points for Euro-Bunds (i.e., standard deviation of the daily returns over the period times the average nearest-futures price over the period)

European Market Impact (10 minutes) from Top Market-Moving Economic Reports (in % terms)



European Market Impact (10 minutes) from Top Market-Moving Economic Reports (in std deviations)



Eurex Equity Index Futures

Eurex offers a wide range of equity products, including equity options, single stock futures, equity index futures and options, dividend derivatives, volatility index derivatives, and Exchange-Traded Fund derivatives. This report will highlight the actively-traded EURO STOXX 50® Index Futures contract, which currently has open interest of more than 2 million contracts and average daily volume of more than 1 million contracts.

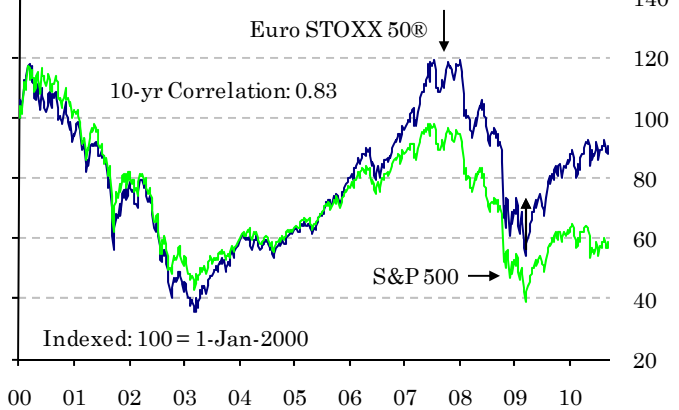
The EURO STOXX 50® Index is a market-cap weighted index of 50 blue-chip European companies. Even though the index has only 50 companies, it includes just over 50% of the free-float market capitalization in the larger EURO STOXX 600® index, meaning it provides an effective representation of the overall European stock market. The index is heavily weighted toward companies based in France and Germany, which together account for about 62% of the index’s market capitalization.

The two charts on the right show that the EURO STOXX 50® Index has performed relatively well against both the S&P 500 and Japan’s Nikkei 225 Index over the past decade. Over the past ten years, the EURO STOXX 50® Index has shown a correlation of 0.83 with the S&P 500 and 0.59 with the Nikkei 225, based on weekly returns.

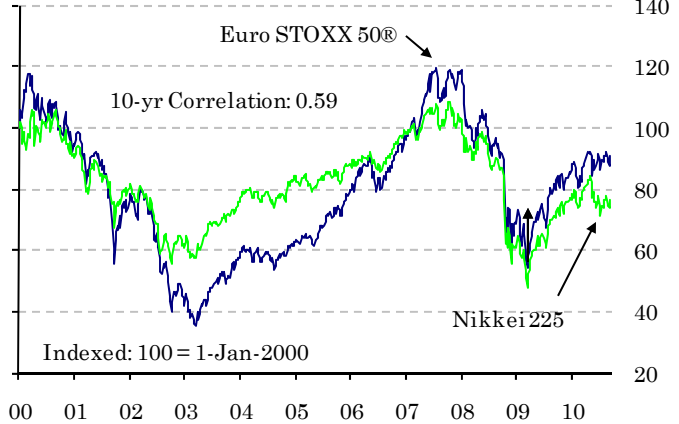
Like all the world’s stock markets, the EURO STOXX 50® Index plunged during the global financial crisis, but then rebounded higher by 72% from

the post-crisis low. The index during 2010 has traded sideways to lower due to the European debt crisis in spring 2010 and concerns about slower global economic growth. Despite those concerns, the consensus is that European earnings will grow by 17% in 2011 and the forward price/earnings ratio for the index is currently at the relatively low level of 10.30.

EURO STOXX 50® Index vs U.S. S&P 500 Index



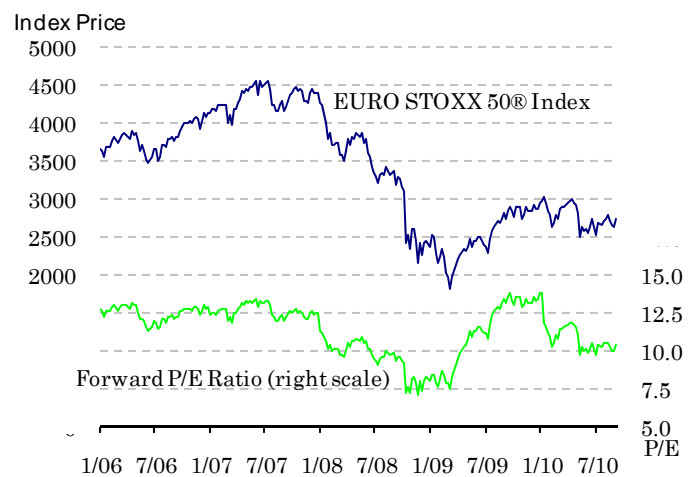
EURO STOXX 50® Index vs Japan Nikkei 225



EURO STOXX 50® Index—Top 10 Members

Company	Weight	Country	Sector
Total SA	5.7%	FR	Energy
Banco Santander	5.4%	SP	Banks
Telefonica SA	4.6%	SP	Telecom
Siemens AG	4.3%	GE	Industrials
BNP Paribas	3.5%	FR	Banks
Sanofi-Aventis	3.2%	FR	Health Care
E.ON AG	3.3%	GE	Utilities
BASF	2.7%	GE	Chemicals
Allianz	2.7%	GE	Insurance
Unicredit	2.6%	IT	Banks

EURO STOXX 50® Index vs Forward P/E Ratio



Eurex EURIBOR Futures

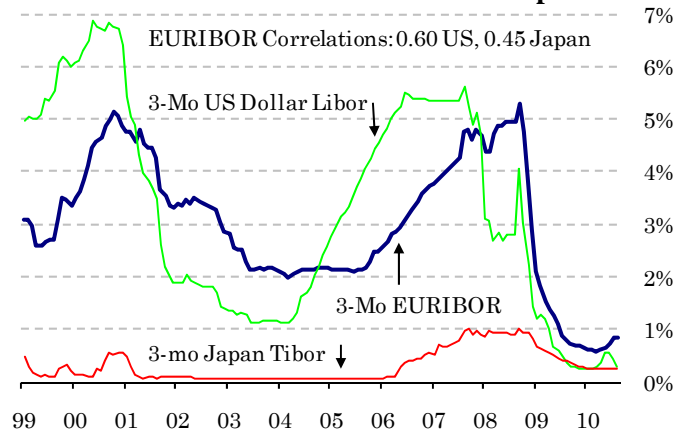
Eurex offers futures and options on the 3-month EURIBOR rate, which is the acronym for the European Interbank Offered Rate. The EURIBOR rate is the rate that banks charge to lend money to each other on an unsecured basis in the interbank market, and is the benchmark used for many other loans and derivatives.

The main factor driving the 3-month EURIBOR rate is the ECB's monetary policy and the ECB's targets for the refinancing rate and Eonia overnight rate (see charts on the right). Over the past decade, the 3-month EURIBOR rate has traded at a median of 15 basis points above the ECB's refinancing rate. As the ECB changes its monetary policy and moves its refinancing rate, the EURIBOR rate generally tends to follow suit with the fairly predictable spread of about 15 basis points above the refinancing rate. However, when the market is expecting the ECB to raise its refinancing rate, the EURIBOR rate tends to trade at a higher spread to the refinancing rate, as seen during the 2007-08 period. The EURIBOR rate is currently trading about 18 basis points below the refinancing rate because the ECB has flooded the financial system with liquidity, thus pushing down interbank rates.

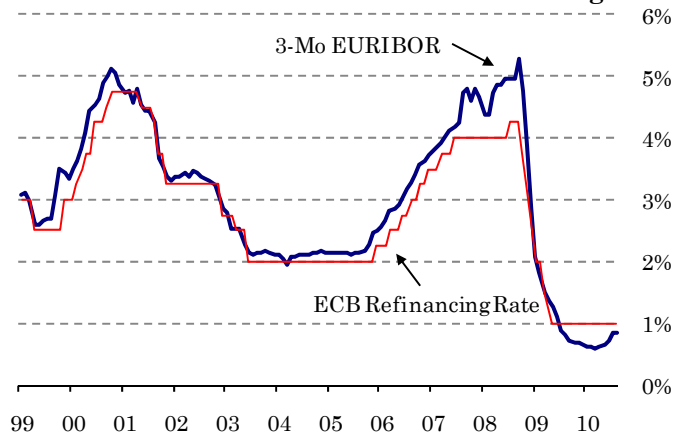
The Eurex EURIBOR Futures contracts provide valuable information about where the market expects the 3-month EURIBOR rate to be in the future. The chart to the right plots the yield (i.e., 100.00 minus futures price) of the EURIBOR contracts stretched out into the future along the horizontal axis, starting with the current June 2010 futures contract and ending with the March 2013 contract. This chart illustrates that the market currently expects the 3-month rate to rise from its current level near 0.88% to 1.23% by the end of 2011 and to 1.92% by June 2013. The market is expecting the 3-month EURIBOR rate to rise as the ECB slowly raises interest rates in response to the expected improvement in the European economy and increased inflation risks.

The European EURIBOR rate is comparable to the U.S. dollar 3-month Libor rate and Japan's 3-month Tibor rate. The chart at the top of the page shows how the EURIBOR rate and the 3-month dollar Libor rate in the past decade have traded in roughly the same cycle with a correlation of 0.61, while the Japa-

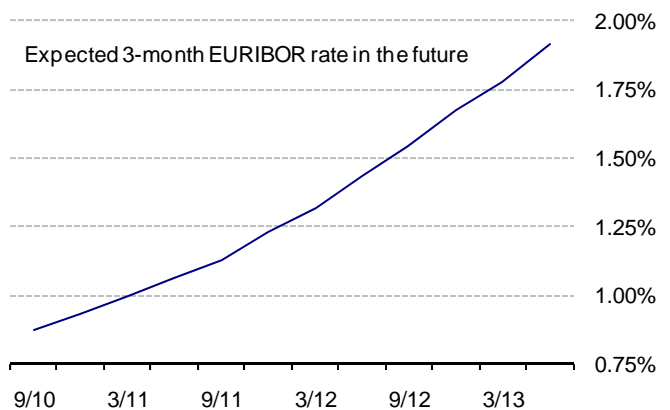
3-Month EURIBOR Rate vs U.S. and Japan Rates



3-Month EURIBOR Rate vs ECB Refinancing Rate



3-Month EURIBOR Futures Strip Curve



nese 3-month Tibor rate has traded far below the EURIBOR rate. The EURIBOR rate was above 5% in mid-2008 but then plunged to the current level near 0.82% due to the financial crisis, which sparked an economic recession in Europe and an extraordinarily easy ECB monetary policy.

Eurex German Fixed Income Futures

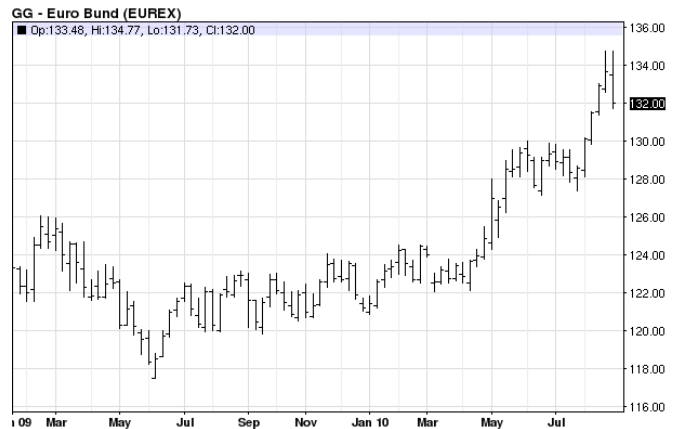
Eurex offers a full complement of German government fixed-income products including 30-year Euro-Buxl[®] Futures, 10-year Euro-Bund Futures, 5-year Euro-Bobl Futures, and 2-year Euro-Schatz Futures, as well as options on those futures products. The “Euro” in the names of those products refers to the fact that German government bonds are now denominated in euros rather than in deutschemarks, as they were prior to European Monetary Union in 1999. In the fixed-income complex, the Eurex also offers 10-year Euro-BTP Italian Government Bond Futures and Swiss Confederation Bond Futures.

European government bond prices are driven by a variety of factors including inflation expectations, ECB monetary policy, and the supply of bonds sold by the government, among others. Short-term bond yields such as the 2-year yield are tied more closely to the ECB’s policy target rates. Longer-term 10-year yields, on the other hand, are driven more by inflation expectations. The spread between the 10-year and the 2-year German government bond yield is shown in the chart at the bottom of the page. This spread, which is one way of defining the steepness of the yield curve, can be traded with Eurex futures products. The German 10-2 yield curve spread currently remains very high at about 150 basis points because the ECB has pegged short-term rates at a very low level in order to deal with the financial crisis.

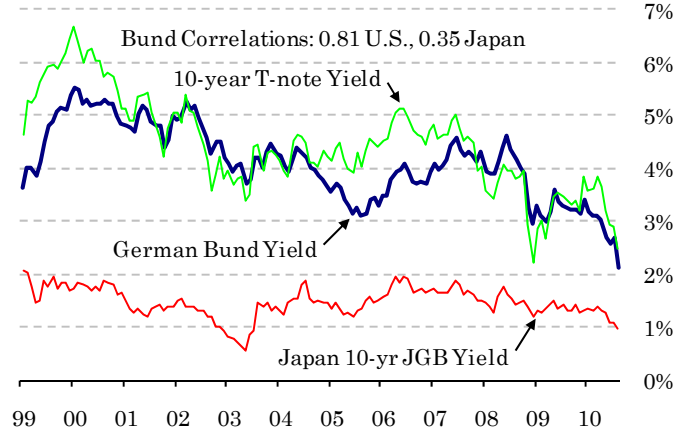
The middle chart on the right shows how German 10-year yields have tracked the U.S. 10-year T-note fairly closely in the past several years due to the similarity of the European and U.S. business cycles and of ECB and Federal Reserve monetary policy. The chart also shows how the Japanese 10-year JGB yield has been far below German yields in the past decade since the Japanese economy continues to experience sub-par economic growth and the threat of deflation. The German 10-year government bund yield has shown a correlation based on monthly returns of 0.81 with U.S. T-note yields since 1999 and a correlation of 0.35 with Japanese 10-year JGB yields.

The chart at the top of the page shows how German 10-year Euro-Bund prices rallied sharply in late 2008 in response to the global financial crisis, which emerged in force with the bankruptcy of Lehman

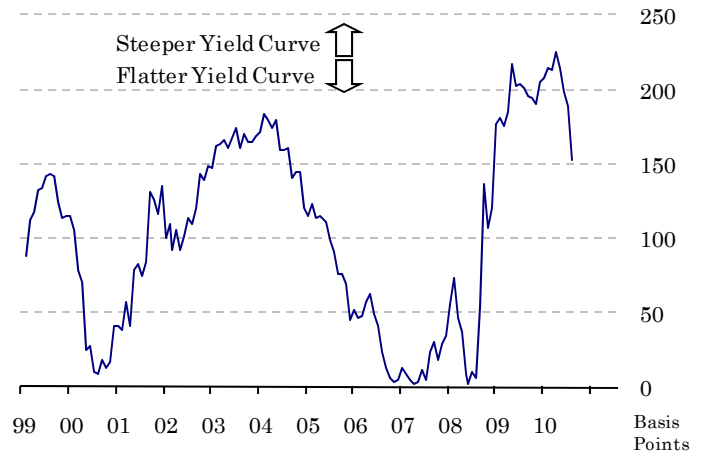
Eurex German 10-yr Euro-Bund Futures Prices



German 10-yr Bund Yield vs U.S. and Japan Yields



German 10-year Minus 2-year Gov't Yield Spread



Brothers in September 2008. Since then, Euro-Bund prices have remained generally strong due to the eurozone debt crisis, the weak eurozone economy, low inflation pressures, and the ECB’s extremely easy monetary policy.

Eurex Euro-BTP Italian Bond Futures

The Eurex Euro-BTP Italian Government Bond Futures contract calls for the delivery of the sovereign bonds of Italy with a remaining maturity of 8.5 to 11 years and an original term of no more than 16 years. Euro-BTP Futures have a contract value of 100,000 euros and a coupon of 6%.

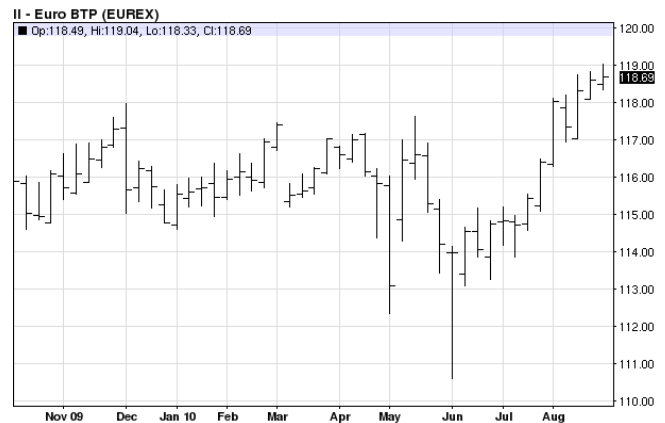
The Italian government bond yield typically trades at a premium above the German yield because Italian bonds are perceived by the market to have higher risk than German bonds. The chart in the middle on the right provides an overlay of German and Italian 10-year bond yields. German government bond yields are typically the lowest in the eurozone because of the size of the German economy and the German government's reputation for fiscal rectitude relative to most of the other countries in the eurozone.

The chart at the bottom of the page shows how the spread of the Italian 10-year bond yield has soared above the German yield in the past two years due to the financial crisis and Italy's poor budget situation. This German-Italian spread can be traded with the Eurex Euro-Bund and Euro-BTP Futures contracts.

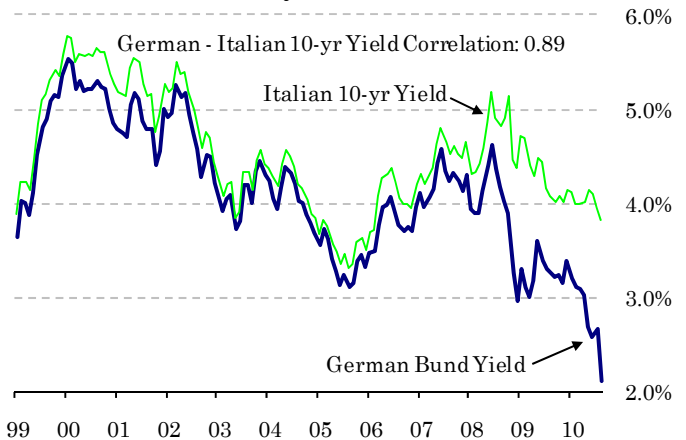
The European Commission is forecasting that Italy's budget deficit in 2010 will be 5.3% of GDP, which is larger than Germany's deficit of 5.0%. Moreover, Italy already carries much more cumulative debt than Germany, which increases the risk of default. The European Commission is forecasting that Italy's cumulative government debt through the end of 2010 will be a very hefty 118% of GDP, the second highest in the eurozone behind Greece at 125%. By contrast, Germany's government debt through 2010 will be significantly lower at 79%. The risk on Italian bonds is also higher than on German bonds because the Italian economy has been weaker than Germany's economy. The market consensus is that Italy's GDP in 2010 will grow by only 1.0% versus 3.3% GDP growth for Germany.

The higher risk attributed to Italian bonds can also be seen in the 5-year credit default swap (CDS) price of 214 basis points for Italy, which is more than five times higher than the German CDS price of 41 basis points. The credit default swap price indicates the cost of insuring sovereign bonds against default. In terms of credit ratings, Germany has the best rating

Euro-BTP Italian Government Bond Futures Prices



German vs Italian 10-year Government Bond Yields



Italian Minus German 10-Year Gov't Bond Yield



possible for its long-term debt of a triple-A rating from all of the rating agencies. Italy, on the other hand, has a long-term debt rating of Aa2 from Moody's (two notches below Aaa), A+ from Standard & Poors (four notches below AAA), and AA- from Fitch (three notches below AAA).

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