2011 FOREIGN EXCHANGE

ANNUAL SUPPLEMENT

GLOBAL FINANCE

Déjà Vu All Over Again

Some analysts say that 2011 is beginning to look a lot like 2008, with Europe's debt crisis morphing into a bank solvency crisis with global ramifications. So far, the foreign exchange market—the world's largest trading market, with a daily volume of $4 trillion—continues to function smoothly. That could change suddenly, however, with the euro on the verge of an existential crisis.

With ring fences going up across Europe and the global economy sputtering, China is making its move onto the global financial stage with an internationalization of the renminbi that is happening faster than most expected. It will be years before the "people's currency" rivals the greenback (and the euro, if it is still around) as a world reserve currency. However, the handwriting is on the wall: There were more bonds issued in renminbi in the third quarter of 2011 than in euros.

Nonetheless, the dollar remains king of the hill when it comes to risk aversion and the preservation of capital. Despite warnings about the dismal outlook for the US economy from Federal Reserve chairman Ben Bernanke and others, the dollar remains the safe haven of choice among central bankers and global investors alike.

While the yen and the Swiss franc have also been havens in the storm, they are losing their appeal. The Bank of Japan (acting on behalf of the powerful ministry of finance) spent a record $59 billion on August 9 on currency intervention to keep the yen from rising. Switzerland put a cap on the franc by pegging it to the euro, which has been falling.

The threat of rising protectionism was underlined by the US Senate's vote last month to move ahead with a bill to punish China for keeping the value of its currency low. The People's Bank of China said passage of the bill could lead to a trade war. Fortunately, the bill is unlikely to advance in the House of Representatives.

The tables have turned from a year ago, when the House voted 348 to 79 to approve the Currency Reform for Fair Trade Act, which would have authorized the commerce department to impose duties on imports from countries with undervalued currencies. The representatives acted in the knowledge that the legislation faced tougher going in the Senate.

The currency markets are getting a lot of attention, and most of it is deserved. Those who fail to learn from the past are bound to relive it. The "Smoot-Hawley Tariff Act of 1930" had a negative effect on the economy as US exports were cut in half. Should protectionism take hold, this pattern looks set to repeat itself, and the consequences for world trade could be devastating.

Gordon Platt
Contributing Writer
Global Finance

Same Old, Same Old

The US dollar will remain the world's reserve currency of choice as long as there is no credible alternative. By Denise Bedell

There have long been calls for a new currency to take the place of the US dollar as the world's reserve currency of choice—in the recent past these calls have been blasted through a bullhorn courtesy of Chinese officials wanting the yuan renminbi to take its place.

Such cries have been made before, and yet nothing has risen to oust the dollar since it first gained prominence as the premier reserve currency after the second world war—with its peg to gold under the Bretton Woods system.

When the dollar weakened in the latter half of the 1970s, similar calls were shouted from the rooftops, but the dollar held sway. Again in the 1990s and early in the new millennium calls were made afresh, but availed little.

Most recently, China has signaled its intent to challenge dollar dominance with the renminbi—which the country indicated is heading for full convertibility. When the US was downgraded by rating agency Standard & Poor's in August, Xinhua, the Chinese state news agency, was quick to make use of it. The agency said in a statement: "International supervision over the issue of US dollars should be introduced, and a new, stable and secured global reserve currency may also be an option to avert a catastrophe caused by any single country."

"EXORBITANT PRIVILEGE"

There are many benefits gleaned by reserve currency countries, and none glean more benefits that the US. When the peg was abandoned in 1971 and the dollar retained its reserve currency status—under then-president Richard Nixon—the French finance minister Valéry Giscard d'Estaing coined the term "exorbitant privilege" to describe the unfair playing field between the dollar and other currencies.

Reserve currency countries benefit in a number of ways, including cheap borrowing thanks to high demand for reserve currency government bonds; wide-reaching seigneurage—or the differential between the value of goods purchased with bank notes and the cost of printing and distributing those bank notes; and a less-urgent need to hold high reserves.

> **"The GBP and the JPY have been beneficiaries of the slower pace of [euro] accumulation"**
>
> *—Aroop Chatterjee, Barclays Capital*

But that exorbitant privilege will remain as long as no other currency is considered enough of a bulwark to take its place, and that has yet to happen. Although the renminbi may indeed present a viable alternative at some point, for the foreseeable future the dollar will remain preeminent. The closest rival was the euro, but since the crisis began in the region, euro currency reserve accumulation has been decreasing.

In a recent research report, Aroop Chatterjee, analyst at Barclays Capital, noted that central banks in emerging markets—which account for 71% of total reserve currency accumulation—have been reducing allocation into the euro this year while their dollar allocations have seen little change. There are also changes in how emerging markets central bankers are managing diversification.

"While accumulation of USD remains healthy and unchanged, the GBP and the JPY have been beneficiaries of the slower pace of [euro] accumulation," he said. Worldwide, dollar accumulation is up: the US currency made up 54% of overall accumulation, up from around 49% since the credit crisis, Chatterjee noted. The IMF's Currency Composition of Official Foreign Exchange Reserves (COFER)—the data upon which the Barclays research is based—showed slowing reserve accumulation in general going into the second half of the year by the world's central banks.

Notes Jason Trennert, managing partner and chief investment strategist at Strategas Research Partners: "The US is bailed out by fact that it is a reserve currency. It can get away with a lot of bad behavior." He says it is the best house in a bad neighborhood. "But that house could wind up on fire, too." Trennert adds that the US is still the largest fiat currency globally: "But the fact that gold [prices] continue to go up shows there is not a lot of confidence in that fiat currency." ■

Currency Wars

Battle Tactics Change With Global Slowdown. By Gordon Platt

When the global economy seemed securely on track for a steady expansion last year and early this year, central banks intervened massively in the foreign exchange market to limit appreciation of their currencies to maintain a competitive edge in global markets for their countries' exporters. The nature of these

Chandler, Brown Brothers Harriman: ***The lingering US and European crises are casting a pall over global capital markets***

so-called "currency wars" has changed dramatically as a result of worries about slowing growth globally in the wake of the US and European debt crises. Now many central banks are intervening to prop up their currencies amid a rush to the dollar.

Battle tactics may have changed, but the currency wars have not ended. Japan has increased its currency "war chest" to more than $500 billion to keep the market wary of potential intervention to sell the yen, says Masafumi Yamamoto, chief foreign exchange strategist at Barclays Capital in Tokyo. The Bank of Japan's total intervention during 2003 and 2004 was around that amount.

Japanese finance minister Jun Azumi said the government would increase the limit of financing bill issuance for intervention to $2.2 trillion. The government decides on foreign exchange intervention, and the Bank of Japan executes transactions on behalf of the powerful ministry of finance. Therefore, the government needs yen funding to sell yen in the foreign exchange market.

"The main reason for lifting the limit, in our view, is to show that Japan has sufficient room for yen-selling intervention, if needed," Yamamoto says. This doesn't mean that the Japanese government will be stepping in soon to sell the yen, but it will do so when large yen appreciation causes significant deterioration in the country's economic outlook and share prices, he says.

Amid a huge sell-off in emerging market assets in late September, central banks across the developing countries—including Poland, Brazil, Russia, India, South Korea and Indonesia—were forced to intervene to keep their currencies from plummeting. Weakening currencies threatened to worsen inflation problems at a time when easier monetary policies seemed to be called for.

NEW MEASURES

"The lingering crisis in the US and Europe continues to cast a pall over global capital markets," says Marc Chandler, global head of currency strategy at Brown Brothers Harriman in New York. "Policymakers are responding with new monetary and fiscal measures."

Prudential macroeconomic policies in Brazil, for example, have been backed up with the beginning of an easing cycle, which will likely continue to weigh on the real, Chandler says. Turkey has also begun easing monetary policy, and Hungary is likely to begin an easing cycle for monetary policy in the coming months, he says.

The deterioration of confidence has hit emerging markets and, to some extent, G10 commodity currencies hard. It is difficult to see this trend changing relative to the dollar until the European crisis stabilizes, according to a report by Barclays Capital. In the long run, however, "factors that led to the bout of accusation and counter-accusation in 2010 about currencies being effectively devalued for domestic purposes at the cost of other economies may return once conditions stabilize," the report says. Monetary policy is likely to loosen further in the major economies, and some central banks are running out of options for further easing except via exchange-rate depreciation, it adds.

Economic problems in developed economies remain acute, adding incentive to move liquidity flows from developed economies to faster-growing developing economies, according to the Barclays report. "The global growth slowdown and shifts in portfolio and capital flows suggest to us that maintaining export competitiveness will be an overriding near-term objective," it says.

However, the case for central banks to actively devalue their currencies is unimpressive. Slowing but still robust Asian GDP and export growth and above-historical-average inflation probably work against policymakers going down the politically sensitive road of actively pushing their currencies weaker, the report notes.

ASIAN APPRECIATION

All other things being equal, Asian central banks in the medium term should be more comfortable allowing some currency appreciation if the Chinese renminbi continues to trend higher. The benefits to China of an appreciating currency include a disinflationary impetus, domestic growth rebalancing, slower foreign exchange reserve accumulation and a buildup of political goodwill with the G20 countries, Barclays Capital says.

"Increasing the hunt for safety and liquidity are reports that the IMF is looking to step up its lending capacity"

—Jean-Pierre Doré, Western Union Business Solutions

As *Global Finance* went to press, the US Senate was preparing to vote on legislation designed to punish China for manipulating its currency. A key provision would instruct the Commerce Department to treat undervalued currencies as a subsidy under US trade law, enabling companies to seek countervailing duties against imports. The Obama administration said it was reviewing the bill. "We share the goal of achieving further appreciation of China's currency," White House spokesman Jay Carney said.

The Economic Policy Institute estimated in a recent report that the US has lost 2.8 million jobs from 2001 to 2010 because of the trade deficit with China. President Barack Obama is urging a $447 billion proposal to stimulate job creation. Backers of the China currency bill say it could create more than 1 million jobs without massive government spending.

The value of the renminbi has risen about 3% against the dollar so far this year, and almost 30% since 2005, but some US lawmakers say it remains undervalued by 25% to 40%. Opponents of the bill say it would create a trade war.

Meanwhile, the International Monetary Fund and World Bank have both argued that the global economy is in a danger zone. "Increasing the hunt for safety and liquidity are reports that the IMF is looking to step up its lending capacity, as it fears that it may have to increase its ability to help countries with worsening credit problems," says Jean-Pierre Doré, corporate foreign exchange dealer at Western Union Business Solutions in Edmonton, Canada. The IMF is seeking to double its lending facilities to $1.3 trillion and make permanent an emergency lending facility put in place in 2008.

The cost of insuring Chinese bonds against default is rising and is about double the cost to insure the debt of Germany, a country currently in the grips of the eurozone crisis and facing the prospect of bailing out its neighbors, Doré says. China's latest purchasing managers' index fell below the 50% level. "Further, there are downward projections to China's GDP, with expectations of 7.7% growth for 2012, well below previous projections of 8.3%, as its exports to developed markets decline and inflationary pressures ease," Doré says.

In another battle in the currency wars, the Swiss National Bank set a cap on its soaring exchange rate in September, announcing that it was prepared to buy foreign currency in unlimited quantities to keep the euro above 1.20 Swiss francs. "The current massive overvaluation of the Swiss franc poses an acute threat to the Swiss economy and carries the risk of a deflationary development," the SNB said in a statement.

The risk is that countries will continue to resort to unilateral actions to combat the transmission of global stresses into domestic economies rather than take a coordinated global approach to tackling the crisis, according to analysts at Brown Brothers Harriman. "Thus, we expect market stress to remain elevated amid the recent sharp deterioration in sentiment," they said. The currency wars are far from over. ■

Is the Euro Crumbling?

Major reform is needed, but whether the political will is there to make large scale changes remains to be seen. The alternative may be the end of the eurozone as it now exists. By Gordon Platt

Europe's leaders have been dancing around major economic and financial problems in the eurozone—making minor changes to address specific ills rather than opting for deep seated reform. The question is whether a fundamental solution is in the works and what the alternative will be.

G20 ministers promised "a strong and coordinated international response to address the renewed challenges facing the global economy," including the European debt crisis, at the meeting in Washington in late September of the International Monetary Fund and World Bank. They noted that the eurozone was working to expand the 440 billion euro ($600 billion) bailout fund for Europe's debt-burdened countries.

Amid fears over a possible Greek default, the European Central Bank (ECB) this summer began an emergency operation to buy Italian and Spanish government bonds to keep the crisis from spreading. Nevertheless, some analysts have become significantly more bearish about the euro and many of them expect the situation in the eurozone to continue to deteriorate.

Wolfgang Koester, founder and CEO of corporate FX solution provider FiREapps, says a potential euro breakup could happen quickly. "Once one country pulls out, it's over," he says. "Eurozone leaders are buying time, but they will reach a point where the political pressures are too great to continue with the euro experiment as is."

Koester predicts that there will be a restructuring of the euro some time next year. "A smaller group of countries, including Germany, France, the Netherlands and Austria, will be included in the new euro," he says. He has been warning of a potential euro breakup, he adds, for the past two years.

Although Koester's views on the future of the euro have been echoed far and wide, they are not universally held. Opponents of this view are just as vocal in their defense of the future of the eurozone.

According to the Barclays Capital Global Macro Survey conducted in September, one in four (24%) of investors believe the European debt crisis will result in a breakup of the euro area. A much greater number (60%) of respondents polled believe that fiscal union will eventually take place, although the majority of those believe it will come only after massive monetization of sovereign debt by the ECB.

SWISS PEG STUNNER

In June 2010, FiREapps announced an early warning system for a euro breakup scenario. The EU-RX solution provides enterprise-wide risk transparency by currency and by country. "CEOs and CFOs of multinational companies today cannot keep pace with the events in global currency markets and face foreign currency risks to which they don't have complete visibility in a timely fashion," Koester says.

Many corporations were stunned in September when the Swiss National Bank (SNB) set an exchange rate cap on the Swiss franc, in effect pegging it to the euro, to stop Switzerland's economy from sinking into recession. The central bank said it would no longer accept an exchange rate

Koester, FiREapps: ***When one country pulls out of the euro, it is over***

below 1.20 francs to the euro.

"The SNB will enforce this minimum rate with the utmost determination and is prepared to buy foreign currency in unlimited quantities," SNB chairman Philipp Hildebrand said.

The dollar has become a more attractive hedge for euro area risks because of the floor imposed by the SNB, says Paul Robinson, head of Global FX strategy at Barclays Capital in London. The peg "might not hold in the long run, but in the short run the SNB is bound to defend it robustly, meaning that the Swiss franc is a much less attractive hedge," Robinson says. "Foreign exchange is a zero-sum game, so some other currency must benefit, and we do not agree that it is an alternative European currency such as the British pound or the Norwegian krone. The dollar looks far more attractive."

Until recently, many investors have been frustrated by the resilience of the euro against the dollar, given all the problems in Europe, Robinson says. European policymakers have generally done what was necessary to stabilize concerns in the short run, he says. What's more, the European Central Bank has kept the anti-inflation faith.

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—Paul Robinson, Barclays Capital

The dollar has been weak because of both monetary policy and the structural problems in the US, according to Robinson.

While the relatively hawkish stance the ECB has taken over the past year or so has been a crucial support for the euro, the likelihood of a rate cut has increased significantly, he says.

BAILOUT FUND LIMITATIONS

There are two main problems facing the euro area in the short run, Robinson says. First, many investors think that a restructuring of Greek debt is only a matter of time. Second, there is increasing pressure on the way for Spain and more particularly Italy, and the market is not convinced that the European Financial Stability Facility (EFSF)—which was created in May 2010 to enable the eurozone to raise funds in the capital markets for financing loans to member states—will prove enough to stabilize the situation.

The lower house in the Bundestag, the German parliament, voted in favor of expanding the powers of the bailout fund, as agreed at the European summit meeting in Brussels in late July. Germany has benefited greatly from expanded trade since the euro was introduced, says Dennis Gartman, editor and publisher of The Gartman Letter advisory service. "However, Europe's problems have not been solved with the expansion of the ECB's and the EFSF's balance sheets; they've simply been papered over, and 'papering' is always and everywhere a temporary and stopgap measure," he says. ■

GREEK EXIT CALL

Nouriel Roubini, co-founder and chairman of Roubini Global Economics and professor at the Stern School of Business at New York University, says it is time for Greece to default in an orderly manner on its public debt, exit the eurozone and return to the drachma to restore solvency, competitiveness and growth.

"Default and exit will be painful and costly, but the alternative of a decade-long deflation and depression would be much worse, economically, financially and socially," Roubini says in an analysis distributed to select media.


Nouriel Roubini

BROKEN MARRIAGE

Greece can exit the monetary union in a disciplined manner if systematic mechanisms are used and appropriate official finance is provided, Roubini says. "Like a broken marriage that requires a breakup, it is better to have rules—divorce laws—that make separation orderly and less costly to both sides," he says. "Being stuck in a marriage of convenience that is not working any longer is more costly and painful than an orderly and civilized breakup."

While some analysts have estimated that the cost of exit from the eurozone could be as high as 40% to 50% of gross domestic product for the country that is leaving, Roubini says "such estimates appear to be vastly exaggerated and based on utterly flawed assumptions; losses could be much smaller if the process is orderly, if official support is maintained, if debts are converted in an orderly manner into the new local currency, and if sharp currency depreciation rapidly restores economic growth."

The risk that a Greek default and eurozone exit will lead to high inflation or even hyperinflation in Greece is also vastly exaggerated, Roubini says. "The same claims were made about Argentina when it defaulted and moved to a floating rate," he says. "But even in a country like Argentina, with a long history of inflation and hyperinflation, the move to a float did not lead to hyperinflation, as some scaremongers had wrongly predicted." ■

China's Lofty Ambitions For The Renminbi

The Chinese government continues to make strides in internationalizing its currency. By Gordon Platt

Every long march starts with a single step. China has taken many steps toward the eventual globalization of the renminbi. Full convertibility is around the corner.

Since it was introduced in July 2010, the offshore renminbi market has been the fastest-growing currency market in the world, according to HSBC. "This growth is being driven by China's desire to internationalize its currency and ultimately create an alternative to the dollar as the world's reserve currency," the bank noted in a September report.

Chinese authorities have recently widened the channels for renminbi to flow, not just out of China but, just as importantly, back in again, HSBC says. As it becomes easier to invest offshore renminbi back into the mainland, the growth in cross-border circular flows of renminbi will reinforce organic growth and can also be considered a form of capital account liberalization, it says.

Signs of eventual expansion of the offshore renminbi market beyond Hong Kong—perhaps into Singapore and London—in the coming year suggest that the pace of development will not slow anytime soon, according to HSBC.

FOREIGN TRADING GROWS

UK Chancellor George Osborne said in September that China and Britain are likely to develop an offshore trading hub in London, which is the world's largest center for foreign exchange trading. After meeting with Chinese vice premier Wang Qishan, who was in London for trade talks, Osborne said: "We discussed the strong private-sector interest in developing the offshore renminbi market in London. We will work together to support the market's further development."

In the US, derivatives exchange firm the CME Group was planning to introduce dollar/renminbi futures on October 17, 2011—as this issue of the magazine went to press. "The renminbi has experienced rapid growth in deposit and trading volume and is now being used for business transactions in multiple offshore locations, including Hong Kong, Singapore, South Korea, Australia and other areas around the world," the CME explained. "Accordingly, a need for capital risk-management tools for the Chinese currency has emerged."

The CME's dollar/renminbi futures contracts are offered in standard and E-micro sizes (one-tenth the size of the standard foreign exchange futures) and are quoted in conventional interbank foreign exchange market terms.

The BIS reports that $21 billion in renminbi-linked derivatives was traded each day in 2010, most of which took place off of exchanges.

Qu, HSBC: Domestic demand should support 8.5% to 9% growth in the coming quarters

NEW CHANNELS OPEN

Earlier this year the state-controlled Bank of China introduced trading in renminbi in the US market for the first time. The bank limits the amount of renminbi that can be converted by a US customer to $4,000 a day, but there are no restrictions on the amount that can be converted by businesses. US citizens are now able to open FDIC-guaranteed accounts in the bank by converting their deposits into the Chinese currency.

Saxo Bank, which specializes in online trading and investment, announced in September that its clients are now able to trade the offshore renminbi on its trading platforms. The bank offers streaming prices on ticket sizes up to $3 million and larger trade sizes are available on a request-for-quote (RFQ) basis. Renminbi trade settlement has now been rolled out globally—allowing companies anywhere in the world to settle trade transactions using the Chinese currency.

GLOBALIZATION GROWS

"The development of the offshore renminbi [cross-currency] market is integral to China's broader strategic plans to internationalize and turn the renminbi into a viable reserve currency," says Claus Nielsen, head of trading at Saxo Bank, based in Copenhagen.

McDonald's and Caterpillar were the first US nonfinancial companies to issue debt priced in renminbi in the Hong Kong market—known as dim sum bonds. Unilever and Volkswagen have also launched offered dim sum bonds, and other companies have announced intentions to do the same.

"The development of the offshore renminbi [cross-currency] market is integral to China's broader strategic plans to internationalize and turn the renminbi into a viable reserve currency"

—Claus Nielsen, Saxo Bank

Mainland Chinese companies are also expected to issue more yuan-denominated bonds in Hong Kong, following regulatory changes announced by a Chinese State Council vice premier—Li Keqiang—on a visit to the special administrative region in August 2011. Dim sum issues were previously limited to Chinese financial institutions and non-Chinese companies.

The offshore renminbi market was further liberalized with the establishment of a $3.1 billion pilot renminbi foreign direct investment (RFDI) initiative. Hong Kong companies are expected to use the RFDI program to invest in mainland securities using renminbi instead of Hong Kong dollars.

The renminbi was a more popular currency for companies issuing bonds than was the euro in the tumultuous third quarter of this year, according to Dealogic. There were $31 billion of renminbi-denominated corporate bonds issued in the quarter, compared to $26 billion in euro-denominated bonds.

As the Chinese currency becomes more widely used around the world, there will be less need for China to hold US dollar assets. China's trade could also get a boost. Renminbi-settled trade now accounts for around 8.6% of China's trade settlement, up from only 1% a year earlier.

ACTIVE CENTRAL BANK MANAGEMENT

The People's Bank of China (PBOC) has raised interest rates three times since January—pushing the one-year deposit rate to 3.5% and the one-year lending rate to 6.56%. "We believe the tightening cycle is approaching an end; the peak of inflation in July and the slowdown of growth support our call of zero rate hikes for the rest of this year," says Qu Hongbin, chief economist for Greater China at HSBC in Hong Kong.

The central bank announced in August 2011 that it would manage the renminbi more actively against a basket of currencies, instead of just the dollar, and allow market forces to play a bigger role. The PBOC said the dollar, euro, Japanese yen and South Korean won would dominate the basket. The Singapore dollar, Malaysian ringgit, Russian ruble, Australian dollar, Thai baht and Canadian dollar would be included in lesser amounts, it added.

"As China continues efforts to internationalize its currency, the market is rapidly increasing, not just in size, but also in depth and breadth," according to HSBC's report on the market. "The rapid rise of the offshore renminbi has taken the world by surprise," it noted.

ALTERNATE RESERVE CURRENCY

The world's second largest economy and biggest exporter, China has big ambitions for its currency. The offshore renminbi is "the world's most important new currency market," HSBC says. "We expect [the Chinese] authorities to continue their drive to make the renminbi ultimately a fully convertible, deliverable and international reserve currency alternative over the coming years."

Despite some market commentary to the contrary, China's economy remains on course, according to Qu. He says fears of a hard landing for China's economy are unwarranted. "Still resilient domestic demand is sufficient to support around 8.5% to 9% growth in the coming quarters," he says. "Investment growth has been stronger than expected so far and will continue to find support from over 100,000 ongoing investment projects, public housing construction and resilient consumer spending."

Qu says consumer spending will hold up well, thanks to two years of strong wage growth and a labor market that remains tight. "Even as export growth softens further in coming months, China is less dependent on net exports, whose contribution to GDP growth was almost zero in the first half of 2011," he says.

The pace of internationalization, development and growth of the market will remain very rapid and may continue to outpace market expectations for some time, according to HSBC. ■

Who's Who

Who's who in foreign exchange. By Gordon Platt

MOHAMED EL AROUSSI
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Mohamed El Aroussi has been head of the foreign exchange desk at Arab African International Bank (AAIB) in Cairo since 2008. AAIB is one of the biggest market makers in trading the dollar against the Egyptian pound. El Aroussi writes market reviews and FX trading strategy reports for the bank from both technical and fundamental perspectives.

He holds a bachelor of commerce degree from Cairo University, where he majored in accounting.

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Jamie Thorsen heads global foreign exchange operations in Canada, the US and Europe for BMO Capital Markets and is responsible for the firm's capital markets activity in China. She currently serves on the Bank of Canada's FX Committee and was on the FX Committee of the Federal Reserve Bank of New York for 17 years.

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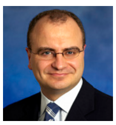

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Firas Askari is responsible for Canadian dollar trading globally at BMO Capital Markets and heads the firm's foreign exchange sales and trading group in London. He is a former president of the Financial Markets Association of Canada and has served on the Bank of Canada's FX Committee. Askari joined BMO in 1996 and assumed his current position in 2004.

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In 2007, Melanie Wong relocated from New York to Hong Kong and began raising the FX profile of BNY Mellon. She selectively assembled a local team that employs a proactive, client-centric relationship management style. She built upon her knowledge of the subtle differences among the countries and cultures in the region and the whole BNY Mellon Asia-Pacific presence, expanding the reach of the bank's client base of FX users, including central banks, sovereigns, investment managers, hedge funds and multinational corporations.

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Affable and prolific, chief currency strategist Simon Derrick has led his research team to a high level of visibility and wide breadth of media coverage this year. His astute currency forecasts are peppered with charts generated from iFlow, BNY Mellon's interactive, multi-asset-class research tool. Derrick's economic commentaries—on the simmering eurozone crisis, for example—are consistently insightful.

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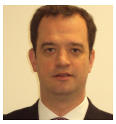

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José Augusto Durand is director of the client desk and foreign exchange desk of Banco Itaú BBA, which provides corporate, treasury, international and investment banking services in Brazil. He joined Banco Itaú in 1996 and previously was a senior trader for the client desk at Lloyds Bank. He holds an MBA in finance from IBMEC.

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Anil Prasad is global head of FX and EM local markets at Citi, based in London. He began his career with Citibank India in 1986 and relocated to New York in 1988 to work on the currency and metals options desk. In 1992 he was named head of its options business. Prasad moved to London to head Citi's interest-rate options business in 1996. He left Citi to work in proprietary trading at NatWest Capital Markets in 1997, then rejoined Citi in 2000 as regional head of CEEMEA trading and was named head of sales and trading for the region in 2003.
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Managing director and global head of G10 FX
Citi

Jeff Feig is responsible for all foreign exchange sales and trading in the G10 developed markets at Citi. He joined the bank in 1989 as an associate on the FX desk in Toronto and has held several FX management positions in North America and Europe. He was named to his current position in 2004. Feig is the current chair of the Federal Reserve Bank of New York's FX Committee and also serves on the Bank of Canada's FX Committee. He was on the board of electronic broker EBS until its sale in 2007 to ICAP.
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BEN McMILLAN
Global head of FX, institutional banking and markets
Commonwealth Bank of Australia

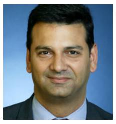
Ben McMillan joined Commonwealth Bank of Australia in August 2008 and is responsible for FX trading and institutional sales globally. He began his career at Bankers Trust in Sydney in 1998 after completing a bachelor of commerce degree in finance and a BS in mathematics from the University of New South Wales. Prior to joining Commonwealth Bank, McMillan worked at Barclays Capital in London.

PETER SOH
Managing director and head of foreign exchange/ commodities
DBS

Peter Soh was appointed head of foreign exchange/commodities at DBS in 1996. He joined DBS in 1989 and was named managing director in 2005. Soh has been instrumental in building a world-class foreign exchange team with a strong regional presence in spot trading of the US dollar against the Singapore dollar and in non-deliverable forwards.
He also expanded DBS's treasury and markets capabilities in South Korea and Indonesia. A Singaporean, Soh holds a BA degree in finance from the University of Hawaii.

CONRAD KWOK
Managing director and head of trading, and head of FX/ gold derivatives
DBS Hong Kong

Conrad Kwok is managing director of treasury and markets at DBS's Hong Kong branch. He also heads FX/gold derivatives and was appointed head of trading in March 2011. Kwok joined DBS in 2000 and has been the driving force behind the FX derivatives business for DBS in Singapore and Hong Kong.
Prior to joining DBS, Kwok spent 11 years at Chase Manhattan Bank in Singapore and Tokyo. A Hong Kong native, he holds a BA degree in finance and commercial studies from Canada's University of Western Ontario.



ZAR AMROLIA
Global head of foreign exchange
Deutsche Bank

Zar Amrolia is global head of foreign exchange in the global markets division of Deutsche Bank, based in London. Amrolia was named global head of foreign exchange in 2006. He joined Deutsche Bank in 1995 from Credit Suisse First Boston. From 2000 until 2004, he was co-head of foreign exchange at Goldman Sachs. Amrolia is a member of the foreign exchange committees sponsored by the Federal Reserve Bank of New York and by the Bank of England.
He also chairs the global FX division of the Association for Financial Markets in Europe (AFME).
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STERGIOS PANTOSTIS
Co-head, global markets trading
Eurobank EFG

Stergios Pantostis co-heads the global markets trading division at Eurobank EFG, based in Athens. In FX his group operates in the spot and derivatives markets, with a main emphasis on Southeastern and Central Europe. Pantostis joined the group in 2002 and headed the derivatives business until he was named to his current position in 2009.
spantostis@eurobank.gr

WOLFGANG KOESTER
CEO
Fireapps

Wolfgang Koester, founder and CEO of Fireapps, has managed risk for Fortune 100 companies and G10 governments since 1986. Fireapps offers on-demand software and services to help treasurers and controllers collect accurate FX exposure data and better manage currency risks. Prior to forming Fireapps, Koester worked for more than 13 years at GFTA Trendanalysen, a quantitative currency manager. He was president of GFTA from 1995 to 2000, and continues to serve on the company's board.
koester@fireapps.com

DAVID GILMORE
Partner and economist
Foreign Exchange Analytics

David Gilmore is responsible for managing Foreign Exchange Analytics' fundamental coverage. Prior to founding the Essex, Connecticut–based firm in 1994, he spent seven years providing online commentary in New York and London with MCM CurrencyWatch and MMS International.
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PHIL WEISBERG
CEO
FXall

Phil Weisberg has led FXall since its formation in 2000 and remains instrumental at all levels—from building and testing the latest technology improvements to working with customers one-on-one. FXall is the leading foreign exchange trading platform and strategic execution partner, serving more than 1,000 institutional clients, including corporates, asset managers, active traders and banks.

DREW NIV
CEO
FXCM

Drew Niv, CEO of FXCM, co-founded the foreign exchange brokerage in 1999. Since then, FXCM has become one of the largest firms in online retail foreign exchange trading, with 150,000 accounts in over 200 countries. Prior to founding FXCM, Niv was director of marketing at MG Financial.

JOHN TAYLOR
Chairman, CEO and chief investment officer
FX Concepts

John Taylor founded FX Concepts, a New York–based investment management company for foreign exchange assets, including currency overlays, in 1981. He specializes in the analysis of cyclicality of FX and interest rate markets. Taylor developed some of the first computer models to assist multinational corporations in managing foreign exchange risk. jtaylor@fx-concepts.com

FREDERIC BOILLEREAU
Global head of foreign exchange and metals
HSBC

Frederic Boillereau was named global head of foreign exchange and metals in March 2009, when HSBC integrated foreign exchange spot, forward and options trading, as well as the metals business, into a single global product offering. Boillereau joined the bank's global markets division in 1998. Since May 2008, he has been heading HSBC's metals business.

MARK JOHNSON
Managing director, global head of foreign exchange cash trading
HSBC

Mark Johnson is global head of foreign exchange cash trading at HSBC, based in London. He was founding managing partner and chief investment officer at Johnson Stewart Partners. Previously, he was a managing director at Deutsche Bank.

JOHN NIXON
Executive director and CEO, ICAP Electronic Broking
ICAP North America

John Nixon was named an executive director of ICAP North America in May 2008. ICAP became the leading broker in the spot FX market with its purchase of the EBS platform in 2006. Nixon is also CEO of ICAP Electronic Broking and is responsible for strategic acquisitions as well as ICAP's information business. He is a member of the FX Committee sponsored by the Federal Reserve Bank of New York.
john.nixon@us.icap.com

DAVID RUTTER
Deputy CEO of ICAP Electronic Broking
ICAP

David Rutter is deputy chief executive of ICAP Electronic Broking. Prior to joining ICAP in 2003, he was a significant shareholder in Prebon. Rutter served in various capacities at Prebon, beginning in 1988. He was global chief executive of Prebon Energy and managing director of the Americas for Prebon Yamane.
david.rutter@us.icap.com

TODD CROSLAND
Chairman and president
Interbank FX

Todd Crosland is chairman and president of the Interbank FX group of companies, including Interbank FX and IBFX Australia. Crosland founded Interbank FX in Salt Lake City, Utah, in 2001—offering individual traders, money managers and institutional customers proprietary technology, tools and education to trade spot foreign currency online.
With customers in more than 140 countries, Interbank FX has distinguished itself among industry leaders with its unique nine-bank liquidity feed. In addition, Interbank FX's pioneering trade execution rates support the rising algorithmic, high-frequency-trading trend.
todd.crosland@interbankfx.com

THANOS PAPASAVVAS
Head of currency management and portfolio manager
Investec Asset Management

Thanos Papasavvas is head of currency management at Investec Asset Management, which manages approximately $9.8 billion of currency assets for global investors. Previously, Papasavvas was a director and head of currency management for Credit Suisse Asset Management.
He joined CSFB's fixed-income department in 1994 after two years as an economist for the UK Government Economics Service.
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JOAQUIM PIRES
Managing director and head of foreign exchange
Millennium bcp

Joaquim Pires is head of foreign exchange at Portugal-based Millennium bcp. He is responsible for FX trading and sales, covering a wide range of currencies and structured products. Pires joined the bank in 1991 from Banco Português do Atlântico, where he started his career in financial markets in 1986.
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MAMMEN VARKEY
Assistant general manager, investments and treasury group
National Bank of Kuwait

Mammen Varkey is assisstant general manager and head of foreign exchange trading at the National Bank of Kuwait in Kuwait. He started his career at NBK and has been chief dealer since 1989.

He has more than 25 years of experience in the markets and is an active trader of the major currencies and a market maker in all Gulf Cooperation Council (GCC) currencies.

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MICHAEL STUMM
Chief executive officer and president
Oanda

Michael Stumm is the co-founder of web-based exchange rate portal Oanda, which was launched in 1995 and became one of the first companies to offer fully automated online currency trading. Stumm has a Ph.D. in computer science and is a computer-engineering professor at the University of Toronto.

He specializes in distributed and parallel systems, Internet technology and e-commerce.

Stumm has also held positions at IBM, Stanford University and ETH Zurich. Co-founder of SOMA Networks, he has published more than 100 journal articles and holds five US patents.

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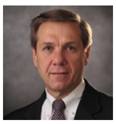

ROBERT SINCHE
Managing director, global head of foreign exchange strategy
RBS Securities

Robert Sinche is a managing director and global head of foreign exchange strategy at RBS Securities, based in Stamford, Connecticut.

He was chief strategist for Lily Pond Capital Management in New York. Before that, he was head of strategy for global rates, currencies and commodities at Bank of America. RBS Securities is a unit of Royal Bank of Scotland.

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JOACHIM ALPEN
Head of trading and capital markets
SEB

Joachim Alpen is head of trading and capital markets at Stockholm-based SEB, a position he assumed on November 1, 2010. He was head of foreign exchange at SEB, which has FX trading desks in 16 countries.

He joined SEB a decade ago as an emerging markets trader and has held numerous positions, including head of trading in New York for three years. Previously, he worked at the Swedish Embassy in Moscow.

Alpen has a master's degree in international relations from Johns Hopkins University.

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STINA EKBERG-NORRHEDE
Head of e-FX trading and distribution
SEB

Stina Ekberg-Norrhede has been head of e-FX trading and distribution at SEB since January 2011. Prior to that, she was head of algo FX trading at SEB Merchant Bank. Following SEB's launch of services in off-shore Chinese renminbi for cash management, trade finance and foreign exchange in December 2010, SEB recently introduced an enhanced service to facilitate electronic trading of renminbi via the SEB Trading Station.

EDWARD VOORHEES
Global head of foreign exchange
Saxo Bank

Edward Voorhees is global head of foreign exchange at Saxo Bank, based in Copenhagen.

He joined Saxo Bank in 2007 as global head of options. Voorhees has worked for Commerzbank in London, and Deutsche Bank and Citi in Frankfurt, London and New York.

Saxo Bank is a leading online trading and investment specialist. It has begun publishing market data from the over-the-counter FX options market three times daily, at the conclusion of trading sessions in Asia, Europe and New York, to increase transparency in the market.

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BARRY WAINSTEIN
Vice chairman, deputy head of global capital markets, global head of FX and precious and base metals
Scotia Capital

Barry Wainstein is vice chairman and deputy head of global capital markets at Scotia Capital and global head of both the foreign exchange and metals (ScotiaMocatta) business lines. Wainstein is a member of the Canadian Foreign Exchange Committee and the European Central Bank's Foreign Exchange Contact Group. He holds B.S. and MBA degrees from the University of Witwatersrand, Johannesburg.

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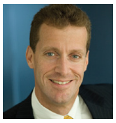

ANTHONY BISEGNA
Senior managing director and global head of foreign exchange
State Street Global Markets

Anthony Bisegna is responsible for managing the foreign exchange sales and trading business worldwide for State Street Global Markets, including spot transactions, forwards, emerging markets and FX options. Bisegna joined State Street Bank in 1987 in the capital markets group. Prior to that, he was with Chase Manhattan Bank's treasury operations group in New York.

He is a member of the Foreign Exchange Committee of the Federal Reserve Bank of New York and a board member of the global FX division of AFME (Association for Financial Markets in Europe). He holds a CFA designation.

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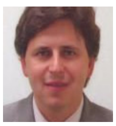

BORIS SOMOROVSKY
Head of trading department
Tatra Banka

Boris Somorovsky joined Slovakia-based Tatra Banka in 1999 as a foreign exchange

trader. He was named a senior trader in 2004 and became head of the trading department last year. The bank is a member of Austria-based Raiffeisen International.
boris_somorovsky@tatrabanka.sk

MARK GALANT
CEO and chairman
Tydall Trading

Mark Galant is CEO and chairman of Tydall Trading, an ultra-high-frequency algorithmic trading firm. He is also a founding partner of Faros Trading. Galant founded GAIN Capital in 1999, and the firm is now one of the largest online foreign exchange companies. GAIN Capital operates the Forex.com system, which has clients in 140 countries. Before that, Galant helped build FNX into a leading provider of trading and risk-management systems. He was also global head of foreign exchange options trading at Credit Suisse. He holds an MBA from Harvard Business School.

TONY WHITE
Managing director, banking
Wall Street Systems

Tony White is managing director of banking at Wall Street Systems, with additional responsibilities for marketing and product management for Wallstreet FX, an integrated platform to support high-volume trade processing. WSS is now being acquired by Ion Trading.
White was instrumental in the creation of Wallstreet ESN, an electronic settlement network for the capital markets.
Wallstreet estimates that more than 25% of the world's daily FX transactions flow through systems it provides to banks.
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PETER CONNOLLY
Executive vice president and group head of global transaction banking
Wells Fargo

Peter Connolly is an executive vice president at Wells Fargo and group head of global transaction banking, which includes foreign exchange, trade finance, cross-border treasury management services, cross-border e-commerce and cross-border investments. He joined Wells Fargo in 1986 as the chief corporate adviser for trading and sales. Three years later he became the division manager for foreign exchange trading and sales. Connolly took on additional responsibilities in 1995, overseeing global transaction banking. He is chairman of Wells Fargo Bank International. Prior to joining Wells Fargo, Connolly was a chief corporate dealer for Barclays Bank. He is a member of the BAFT/IFSA Transaction Banking Global Leaders. He is also a member of the Federal Reserve Bank of New York's Foreign Exchange Committee.
connolly@wellsfargo.com