Bubbling Over

The Economic Links between the Trade Deficit, the Falling Dollar and the Housing Bubble

By Jeff Ernsthausen

The capital markets are rumbling. Since hitting its record high of 14,150 points on October 9th of this year, the Dow Jones Industrial Average has fallen over 1,600 points, or 11.4 percent, as of the writing of this article. This comes after financial giants Citigroup and Merrill Lynch both ousted their CEOs after writing down billions of dollars in bad debt due to "sub-prime" lending. Oil, which fell to $54.50 in February 2007, touched the $100 mark on January 2 and is still trading at over $90 a barrel. Meanwhile, home prices across the United States are declining, in some cases rapidly. Perhaps most surprising to many Americans, the Canadian dollar now trades at par, or one-to-one, against the U.S. dollar, after having been worth only $0.75 a few years ago.

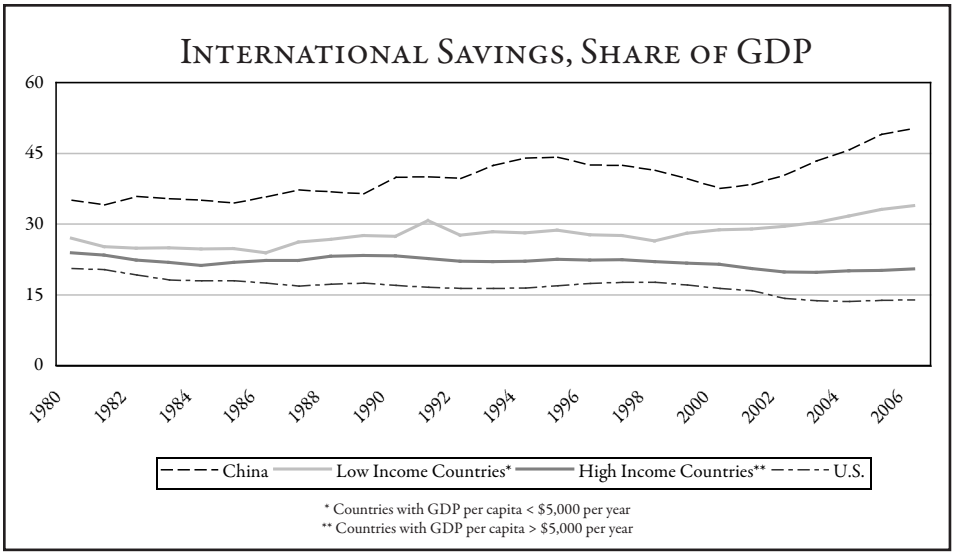
As talk of recession in television and print media grows, politicians and pundits alike turn increasingly to economists for answers. Is America headed for a recession? How deep will the recession be, and how long will it last? What impact would a recession have upon the rest of the world?

The unfortunate answer to these questions is: no one can know for certain. The complexity of the world economy has long defied attempts at simplification - even the most complex models fail to predict major events accurately. In a recent appearance on Comedy Central's The Daily Show, former Federal Reserve chairman Alan Greenspan admitted that, after fifty years in the economic forecasting business, he is no better at it now than he was when he started. Economic forecasting is difficult for a number of reasons. Variables like oil prices, the threat of inflation and the value of the dollar are interconnected and the causal relationship between them is unclear, so one is never certain whether high oil prices cause fear of inflation or whether fear of inflation causes high oil prices. Furthermore, there are intangibles that the models do not account for, such as how the collective sentiment of the people involved with an economy will react to events, like the destruction of the World Trade Center in 2001. These human variables cannot be included in an economic model.

While economists may not be terribly good at predicting the future, they are much better at understanding what has transpired in the past. Once economic data, which can be collected only after the fact, becomes available economists can identify trends. Thus, economists may not be able to tell us exactly where the dollar is headed next year or how the housing market will affect the economy over the next several months, but economic theory can tell us how the housing market, the trade deficit and the value of the dollar are all related, and can point to long-term trends in data for support. Though there may be some disagreement about the cause of these trends, economists can nonetheless begin to explain how they have led the economy to the precarious position it is in today, and can make broad statements about how the situation will resolve itself.

It is impossible to consider the current situation in the United States without also considering the growth of emerging economies around the world. During the decade between 1996 and 2006, the economies of nations with per capita incomes below $5,000 grew by almost 70 percent, while those with incomes over $5,000 grew by less than 30 percent. During this time of phenomenal growth in the developing world, the American trade deficit grew by 385 percent, from $168.5 billion in 1996 to $818 billion in 2006.

Although it may not appear intuitive at first, economists explain trade deficits (technically, "current account" deficits, which for the United States is essentially equal to the trade deficit) in terms of the amount of savings and borrowing that countries trading with one another desire at the world interest rate. If the collection of individuals, governments and corporations in a national economy demand greater borrowing than they collectively save at the world interest rate then they cannot borrow all they need from lenders within their own country,



and the economy must borrow from elsewhere. They will naturally turn to countries where savings exceeds investment at the world interest rate. This means that countries that do not produce enough goods in a given period (equivalent to receiving income in the case of an individual) to satisfy both domestic consumption and investment demand will have to import a greater quantity of goods than they export. Thus, they must have a trade deficit.

Over the past thirty years, the amount of its annual GDP that America saves each year has steadily fallen from around 19 percent in 1980 to 14 percent today, while investment has remained relatively stable, at around 19 percent of GDP (see chart: Savings Rates, Percent of GDP). While this level of investment is consistent with that of other countries with high income, the savings level is remarkably low. By contrast, emerging economies are saving high proportions of their GDPs - China saves an exceptional 50 percent of its annual production. To explain the U.S. trade deficit, therefore, one has to understand why Americans consistently saved less than is required to satisfy domestic investment at the world rate of interest.

One explanation for the American trade deficit is that as the wealth of American institutions and consumers over the past two decades increased, the country as a whole began to save less and consume more (see chart: Savings and Wealth in the United States). Between 1990 and 2000, the Dow Jones Industrial Average increased by more than three times. Since then, home prices have been rising at a similar pace in some parts of the country. As a result of these rising prices, those who owned homes or saved their money in stocks could afford to consume more in the present under the assumption that they could, at some point in the future, exchange their assets for cash to finance their standard of living in the future. In fact,

Savings and Wealth

To understand why America saves so little each year, one must distinguish between what economists call "savings" and what they call "wealth." Wealth is the collected value of the economic assets that an entity (a person, institution or country) has accrued at a given period in time. Savings, on the other hand, is the amount of income that an individual adds to his or her wealth over a given period of time. The classic example to illustrate this is the case of a bathtub with a faucet: wealth is like the amount of water that is in a bathtub at any given point in time, while savings is the water flowing in from the faucet, measured in terms of dollars per a unit of time, such as a year. As one saves, wealth grows, and when one borrows, wealth declines.

One important characteristic of wealth is that, since it is stored in assets, its value can change over time as the "worth" of those assets changes. Some assets, such as checking accounts held in an FDIC-insured bank account, are considered safe, and are highly unlikely to decrease in value over time. A home or a share of stock, on the other hand, can fluctuate greatly in price over the course of a year or even a month. Wealth stored as stock could be worth $2 one day and $3 or nothing the next. For instance, global wealth has declined by over a trillion dollars since the beginning of 2008 because of the declining value of stocks worldwide.

People choose how much to save based upon how much they wish to consume now and how much they wish to consume in the future. When one's wealth suddenly increases, as it has for many Americans over the past two decades, he can afford to save less in the present and still achieve his desired standard of living (or consumption level) in the future, and therefore he can consume more today. One may also consume at a higher rate when he believes that his wealth will increase in the future, a perception that may be based upon past growth in the value of his assets. If one believes that housing prices or stock prices will continue to rise in the future as they have in the past, he may lower his savings in the present. If enough individuals in an economy behave in this fashion, the savings rate of the country will fall, and the trade deficit will rise (see chart: Savings and Wealth in the United States).

many of those who owned homes did more than save less in the present: they actually began to borrow money in order to consume more in a given year than they earned (see box: Savings and Wealth).

Usually, when an economy has the kind of trade imbalance that the United States currently has, it will correct the problem through a change in the value of its currency. As U.S. dollars flow out of the U.S. economy and into another in exchange for the goods that we import, their value in that economy begins to fall. Again, this is a simple model of supply and demand: when U.S. dollars are abundant in an economy, they are valued less than when they are scarce. As asset prices rose in America, American consumers and businesses saved less and borrowed against those assets to purchase consumer goods from abroad in record quantities. Unlike their fixed counterparts in places like China and the Middle East, currencies in places like Europe and Canada, from which Americans also purchased goods in record quantities, gained in value against the dollar through the process described above. Also in contrast to the central banks of fixed currency economies, European and Canadian companies, rather than central banks, received the dollars flowing into those economies and had a greater appetite for risk, and so their dollars did not feed directly into the financing of American debt, but were often used to purchase American assets, like stocks.

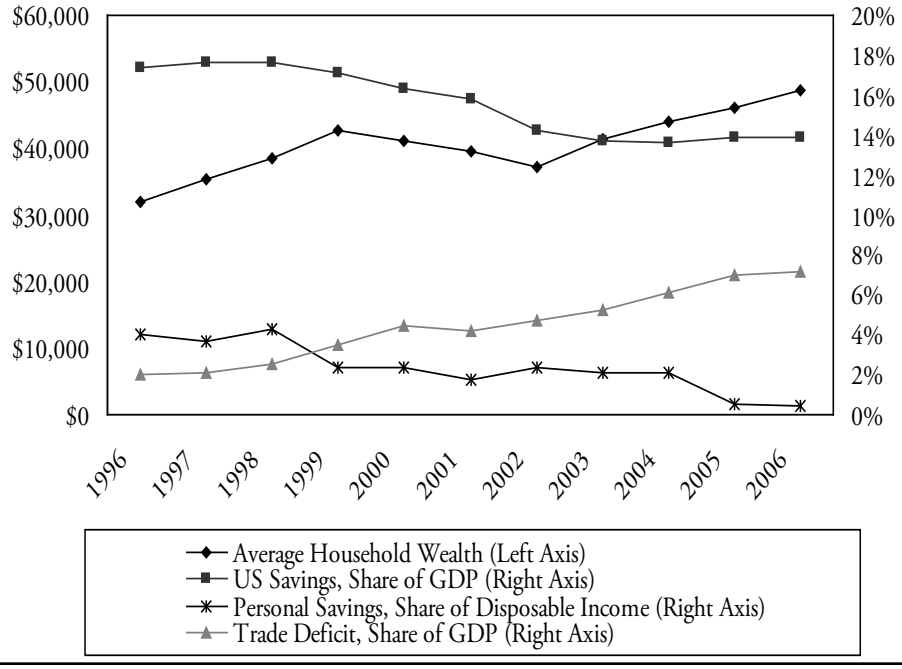
Economic history is littered with examples of currency corrections that have been brought on by extended trade deficits. These include the crash of the Thai baht during the Asian financial crisis of the late 1990s and the collapse of the Argentine peso in the early 2000s. In each case, as the nation's trade deficit pushed past 4 percent of GDP, the threshold of what economists consider sustainable, pressure mounted against the value of the nation's currency, which dropped instantly when central banks in those countries were forced to decrease the value of the currency in response to speculation that it was over-valued. Currently, the U.S. trade deficit stands at over 6 percent of GDP.

There is reason to hope that the case of the dollar will be different - if not in outcome then in timing. First, the U.S. currency is not fixed by our central bank, the Federal Reserve, against other currencies, as the peso and the baht were. Therefore, the Fed cannot suddenly devalue it. Furthermore, the dollar is the currency of choice for trading such commodities as oil and metals, which provides the dollar with some inherent value in world trade. Finally, it is a reserve currency held by many nations around the world, most notably in the Middle East and East Asia. The fact that the dollar has not plummeted further, or sooner, in world markets can be attributed largely to the fact that these economies keep a fixed exchange rate against the dollar.

The Chinese central bank must accrue billions of dollars each year in order to keep its currency at an artificially low rate (see box: Fixed Exchange Rates). By doing so, it keeps the value of the dollar artificially high in the Chinese market, which helps support its value in world markets due to China's position as a major world trader. Consider the following example. Suppose that the Chinese government seeks to keep the exchange rate at 7.5 yuan to the dollar. Suppose also that a T-shirt in China costs exactly 7.5 yuan. A holder of American currency, therefore, knows that he can acquire a T-shirt in exchange for his dollar. Thus, when exchanging his currency for a foreign one, he will require an amount in that currency that will purchase a Chinese T-shirt. By pegging its currency to U.S. currency, the Chinese government keeps the price of the dollar higher in world markets than it otherwise would be.

Notice that, although the U.S. dollar is not subject to sudden devaluation by the Federal Reserve, it is subject to sudden devaluation by the central banks of other nations with large dollar holdings. If these banks suddenly decide to sell their dollar holdings in exchange for other currencies, or even stop purchasing dollars at the pace at which they have thus far been, the American currency will plummet on world markets. The value of the U.S. currency is controlled largely by central bankers not in Washington, but in Beijing and the Middle East.

Savings and Wealth in the United States



A sudden collapse of the dollar induced by the foreign banks that hold our currency is improbable: American debt, unlike debt in Argentina and Thailand, is denominated in the local currency, the U.S. dollar. When the currencies of those countries fell, the value of their debt, denominated in dollars, grew in local currency terms. In Argentina, companies borrowed dollars for pesos at one-to-one. But when the currency collapsed, they had to repay at 3 or 4 pesos per dollar borrowed. This caused many companies to go bankrupt and eventually the national government defaulted on many of the loans they took out from the rest of the world. But if the dollar falls, the value of the debt that America owes also falls in foreign currency terms along with it, and so does the value of the savings held by foreign investors in the U.S. economy. A U.S. company that borrowed $100 million from Europe when the Euro was worth $1.21 still only owes $100 million if the Euro rises to $1.48. The value of the debt in Europe actually falls from €82.65 million to only €67.57 million. In this way, if the world's largest consumers of dollars stop consuming or sell their dollars, and the dollar collapses, the total value of their holdings could be wiped out. Central banks like China's are therefore caught in a vise: if they wish to stop accruing what they know to be an overpriced asset, they must sacrifice the value of the assets they have accrued thus far. Furthermore, exports to America have driven growth in emerging markets with fixed currencies: abandoning the peg could cut these burgeoning economies off from their engines of growth.

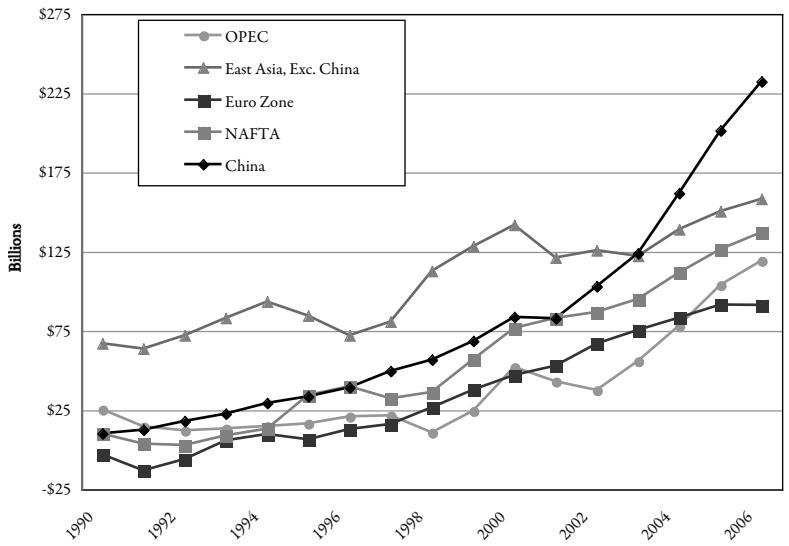
There is, however, good reason for central banks in economies with currencies pegged to the dollar to wean themselves off of the U.S. dollar over time. Being tied to the currency of an economy with a large trade deficit is a recipe for inflation. Recall that in order to keep the value of the dollar up, these central banks have to exchange their currency for dollars at the official price, regardless of the quantity coming into the country. This means printing presses in China are working around the clock, increasing the Chinese money supply to match the inflow of American dollars. As more yuan enter the economy, each yuan buys fewer goods, unless the CBC finds some way of "sterilizing" the new bills. The Chinese government can do this by requiring that banks hold more of their money in reserves, thereby keeping it out of circulation, but the pressures are mounting. Last year, prices in China rose by 6.9 percent, the greatest increase in more than a decade.

It is no surprise, then, that the dollar has been falling as central banks in China and the Middle East talk seriously about moving away from the dollar peg. China has begun slowly to allow the yuan to appreciate, opting to peg to a basket of currencies including the Euro. In the Middle East, where inflation tied to the dollar peg has run rampant in recent years, central bankers are working towards the development of a common currency to replace the dollar over the next five years. Both of these developments have fed speculation against the dollar, and have helped to drive it down to the low levels at which it currently trades.

A cheaper currency is not all bad news for the U.S. economy. As the value of the dollar falls, American exporters become more competitive in international markets. A European importer, for instance, is more likely to purchase a $600 American-made computer now, when it only costs him €405, than he was last year, when it cost him €495.

However, America cannot sustain a falling dollar forever without incurring the resulting increase in inflation. As the value of the currency slips and inflation hits the Middle East, oil exporters are going to require a greater number of dollars in exchange for their oil in order to maintain their profit margins. Thus, the price of oil will continue to rise in dollar terms, barring a reduction in global demand for oil (which, incidentally, could result from a slowdown in the U.S. economy). Indeed, the fall of the dollar is largely credited with triggering the current wave of oil price increases: inflation hawks, seeking to purchase a commodity that will not lose its value over time, are driving demand, and therefore price, way up. Because oil is an input into any consumed good that requires transportation, the rise in its cost eventually will drive other prices up and drive consumption down as

U.S. Trade Deficit, Selected Economies



Americans have less money to spend on other goods.

Cheaper goods are not the only export that emerging economies send to the U.S. economy: they also send their savings. As governments and businessmen in developing countries amass U.S. dollars from the sale of exports to America, they seek to reinvest those dollars in order to get a return on their savings. Often, these investors are central banks, such as the Central Bank of China, that accrue dollars in order to maintain an artificially low fixed exchange rate against the U.S. dollar (see box: Fixed Exchange Rates), but who have a low appetite for risk: they do not want their dollar holdings to disappear due to asset price fluctuations. Generally, the safest dollar-denominated investment is U.S. treasury bonds (U.S. government debt), so many of the dollars held by foreign governments end up being lent to the U.S. government to cover the U.S. budget deficit, which has grown in recent years due to a combination of tax cuts and higher spending. The CBC, for instance, now holds over $1.3 trillion in cash and dollar-denominated Treasury Bonds.

Rising demand for the safest form of investment drove the interest rate on U.S. government bonds down, forcing those seeking the modest return that they once yielded to seek out riskier investments to achieve their desired rate of return. Those lenders moved up the chain and purchased corporate bonds, which are a bit less secure and have a higher rate of return, and those who once sought out corporate bonds moved further up the ladder into mortgage bonds. This rising demand rippled throughout the borrowing chain, lowering interest rates across the board.

As banks and other institutional investors sought higher returns on their investments, they too sought out riskier and riskier borrowers to whom they could lend money at a higher rate of interest. The riskiest of these were the so-called "sub-prime" borrowers who had property (usually houses) to borrow against but who had poor credit ratings because they either possessed no reliable stream of income to service their debt or had defaulted on debt in the past. Banks were especially keen to lend to these individuals because real estate prices were on the rise, and lenders concluded that they could not lose by lending to these borrowers against the value of their home. Even if the borrower defaulted on the debt, the bank could simply foreclose on the borrower's home and presumably sell it at a profit. Lending standards, therefore, relaxed as banks sought to lend as much money as they could to homeowners.

In order to acquire more money to lend in the present, banks sought to borrow against their future cash flows - payments from mortgage loans that they had already lent. In order to do this, banks would securitize a group of mortgages into a single financial instrument, called a collateralized debt obligation, or CDO, against which they could borrow more capital. Since a number of mortgages were bundled together in a CDO, the lender could still expect to be paid in full, even if one or two of the mortgages ended in default. Thus, CDOs were viewed as less risky than the sum of their parts, and received higher ratings from bond-rating agencies such as Standard and Poor's. And because they received

Fixed Exchange Rates

In order to maintain official exchange rates against the U.S. dollar, central banks have to purchase or sell an unlimited number of dollars to anyone who wishes to exchange currencies. If the exchange rate is set too high, say at one unit of local currency to one dollar when it ought to be 0.50-to-one, then the currency is said to be over-valued against the dollar. If this is the case, the central bank will end up selling more dollars than it takes in, as individuals can acquire a currency they believe to be worth one dollar, the dollar, for only half a dollar, which is what the local currency ought to be worth. Simultaneously, the government will purchase its own currency out of the local economy, shrinking the supply of money, causing local prices to fall. As prices fall, dollar holders have even more incentive to purchase goods from the local economy, where goods are now cheaper, so more dollars flow in, and the government continues to purchase them. This will continue until it is clear that the government is going to run out of dollars to exchange, and has to devalue the currency.

The opposite occurs if the exchange rate is set too low, and the local currency is under-valued against the dollar. Then the government will end up accruing dollars and selling the local currency, since an individual can acquire what they believe to be worth more, the local currency, from the government for less than they could if market prices prevailed. When the government sells the local currency, it increases the supply of money in the economy. As the local currency becomes more plentiful, each unit of currency is valued less, and local prices increase. In this case, inflation will increase the price of local goods in both the local and world economy to the point where the currency is only worth the fixed price again, or until the central bank decides to revalue the currency upward against the dollar to stop the flow of dollars into the country. In the former scenario, the savings of individual people will evaporate as their money loses purchasing power to higher prices, while the latter scenario entails shrinking the savings of the government, which holds the dollars that it is declaring to be less valuable.

high ratings, the banks that had issued them could use them to acquire money at a relatively low interest rate from less risk-averse investors, and expect to lend the money out again at a higher rate of interest.

Unfortunately for the financial markets, the ratings given to these CDOs were based on the expectation that housing prices would continue to rise at their present rate, and that borrowers would have enough assets to pay back their mortgages. As prices started to level off and then fall late last year, it became clear that the mortgage lenders, who thought they could not lose because they could foreclose on an asset sure to rise in value, could lose. In turn, the CDOs that the banks issued to raise capital turned out to be riskier than expected, as the prospect of a few mortgage defaults turned into the likelihood of many defaults. As expectations about the likelihood of default changed, so did the value of the CDOs. AA-rated bonds, which are rated by Standard and Poor's as the second-most-secure form of debt and which normally trade at over 90 percent of their value, suddenly plunged to a value of between 40 and 50 cents on the dollar.

Most major financial institutions in the United States, and even many in Europe, were the unfortunate holders of these AA-bonds. In the fall of 2007, as the housing market slid and the value of these bonds plummeted, these institutions began to reveal the extent of their involvement in sub-prime lending, as they adjusted the value of their assets to match the changing price of the bonds they held. These are the "write-downs" that banks periodically announce, much to the chagrin of the stock markets worldwide. A January 12th New York Times article revealing that Merrill Lynch would write down an additional $15 billion in bad debt sent the Dow Jones tumbling by almost 250 points. When the write-downs were actually announced the following Thursday, the index fell by another 300.

The biggest risk to the economy is that incidents like this could spread as confidence in the value of assets dries up. Individuals and institutions are uncertain whether the assets of those to whom they have lent or might lend money are actually valued correctly. A bank may be borrowing against AA-bonds that it is still counting at face value; homeowners may be trying to borrow more money than their houses are worth because of an inflated appraisal made months earlier. Central banks and governments may be able to bail out one or two banks, but massive distrust throughout the economy could not be contained by any central authority. If depositors and investors suddenly prefer the safety of holding real currency to the returns earned by lending, the supply of lending in the economy could suddenly shrink, and with it the investment that drives economic growth.

This explains why the Fed, in concert with the Bank of England and the European Central Bank, has been acting to inject credit into the financial system in recent months. By lending short-term cash to banks at lower rates than the market would accept given the risk of default that currently looms in the shadows of the banking system, central banks are acting as confident lenders in a system rife with uncertainty. The hope is that their lending will encourage banks to lend to one another at lower interest rates, reigniting the expansion of lending in the economy.

An expanding money supply helps to stimulate investment and economic growth, but it can have devastating consequences for the value of a currency. This is especially true for the present U.S. economy, which spends trillions of dollars abroad each year in exchange for consumer goods. The U.S. economy has depended on inexpensive imports to help contain inflationary pressures, and therefore the falling value of its currency on world markets, which is raising the prices of foreign goods, could stoke inflation. The Fed fights inflation by raising interest rates and slowing down the expansion of credit, while right now it is doing the exact opposite, lowering interest rates and lending at low rates to private banks. Thus, the Fed seems to face the unpalatable choice of saving the economy at the expense of allowing inflation to rise, or curbing inflation and potentially triggering a slowdown in the economy. If it plays its cards just right, the Fed may avoid - or induce - both.

The past few weeks have provided a glimpse into how policy makers in Washington will respond to the impending slowdown. In a surprise move before the stock exchange in New York opened on January 22, the Fed cut interest rates by three-quarters of a percent after most world financial markets tumbled several percentage points overnight. This demonstrates that the central bank either believes that the threat to growth is greater than inflationary pressures, or is out to please the financial markets. The House of Representatives, meanwhile, has approved an economic stimulus package designed to head off a slowdown, which seems likely to see swift approval by the Senate and passage by President Bush.

It seems doubtful, however, that either the Fed's or Congress' actions will come early enough to prevent a slowdown in the U.S. economy, whose GDP growth slowed from an annual pace of 4.9 percent in the third quarter of 2007 to only 0.6 percent in the fourth quarter. The impact that those actions will have upon the value of the dollar remains to be seen. Given that the main concern of central bankers in China and the European Union is inflation rather than recession, it seems likely that the dollar has further to fall before it can rebound.

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