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GLOBAL MARKET COMMENTARY

What if the U.S. Dollar Crashes?

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While there are few options to effectively hedge against a US$ crash, investors should nevertheless think carefully about the ways such an event might play out, and what this implies for the efficacy of current investment strategies.

"Achieving the fiscal consolidation necessary to avert a [sovereign debt] downgrade will test 'social cohesion' and may involve rewriting the 'social contract' between governments and their people."
—Matthew Brown, "U.S., U.K. Move Closer to Losing Rating, Moody's Says," *Bloomberg*, March 15, 2010.

Given the increased concerns over U.S. government debt loads, many investors have begun to question whether (and how) one should protect against a Treasury default and/or sharply declining U.S. dollar. While this is not strictly a U.S. concern, this paper focuses on the U.S. dollar, given its status as the world's reserve currency and investor concerns over a US$ crash. One could draw similar conclusions for the euro, pound, and yen, each of which faces pressures analogous to those confronted by the U.S. dollar. Unfortunately, such concerns raise far more questions than answers. The problems faced by the U.S. dollar are very real, and we certainly cannot rule out a crisis in the near term, particularly considering the recent policy actions (rampant deficit spending and extremely aggressive monetary policy) undertaken by the federal government and the Federal Reserve. However, in our opinion, a crisis that evolves into a disruptive, sharp decline in the U.S. dollar is probably not imminent given the enormous vested interests allied against this outcome, as well as the fact that many of the secular problems for the U.S. dollar will likely take years to fully play out.[1]

[1] Please see our March 2010 Market Commentary *U.S. Dollar: The Cyclical Versus the Secular.*

Even if one knew in advance that a US$ crash was on the horizon, protecting a portfolio against this eventuality is far from simple. Adding to the complexity is the fact that we are discussing the crash of the world's *reserve currency* in a fiat currency system—an event that has no modern precedent. (Thus, historical comparisons to other currency crashes are likely of limited value.) For example, the United States, in contrast to the vast majority of countries that have undergone currency crises, issues debt in its own currency, making a true default highly unlikely since money printing would be a far more politically palatable option. U.S. assets, meanwhile, are extremely widely held, often as government reserves; therefore, a US$ crash would have more dramatic, far-reaching, and *unpredictable* consequences than, say, the 2002 Argentine debt default.

We have outlined what we believe are the best methods to hedge against a US$ crash, and also have discussed hedges appropriate for protecting against more orderly declines in the U.S. dollar. However, the bottom line is that options to hedge a true US$ crash are few and far between.

Which Crisis Do You Mean?

There are various ways a currency can decline. While investors are understandably worried about a destabilizing decline that would wreak havoc on markets, such an outcome is not a fait accompli, *even if one believes the U.S. dollar must decline significantly in coming years.* Historical currency declines have

generally fallen into one of the following four scenarios:

- **Scenario 1:** Long and gradual decline, with little disruption to economic activity.
- **Scenario 2:** Rapid but orderly decline, again with little disruption to economic activity.
- **Scenario 3:** Sharp and disorderly decline, with significant disruption to economic activity.
- **Scenario 4:** Currency collapse and hyperinflation.

The first two scenarios are the least disruptive for investors, at least in the short to medium term. We characterize Scenario 1 as a gradual US$ decline that does not significantly impact economies or markets. An example of such an environment is the period from early 2002 through mid-2008, when the trade-weighted U.S. dollar fell 38% from fundamentally overvalued conditions to more reasonable values, particularly relative to major developed market currencies. Scenario 2, meanwhile, is similar to what occurred from March 2009 through the end of that year, when the U.S. dollar fell sharply against most currencies (16% on a trade-weighted basis from peak to trough during the period) from overbought conditions, as financial markets rallied from oversold conditions. Such sharp declines reflect the countercyclical nature of the U.S. dollar, which has tended to sell off during periods when risk is embraced and appreciate during periods of risk aversion.

The third and fourth scenarios are what we define as a currency "crash." Scenario 3 reflects a sharp and disorderly currency decline, with significant disruption to global markets and economic activity.[2] Such a disruption might look somewhat like the 1970s, which was generally good for hard assets but terrible for financial assets (Exhibit 1). (While there are obviously significant differences between today and the 1970s, this is the best historical example of what we might expect to transpire.[3]) A currency crash may also take the form of deflationary conditions, as was the case throughout Asia during the latter part of the 1990s; however, the current U.S. situation is obviously quite different than the "Asian tigers," and we would not expect a US$ crash to play out in such a fashion.

The fourth and final scenario is currency collapse and hyperinflation, in which the populace loses faith in the currency as a store of value. Famous examples include the Weimar Republic of the early 1920s, Hungary in 1945–46, Argentina in the 1980s, and, most recently, Zimbabwe. Put simply, hyperinflation, in which currency essentially becomes worthless and economic activity grinds to a halt, is the worst of all possible worlds.

Clearly, Scenarios 1 and 2 require little to no hedging for most U.S. investors with diversified portfolios, since these investors already incorporate exposure to non-US$ currencies that would be helpful in either environment (as was the case from 2003–07 and in the last three quarters of 2009). The same holds for most non-US$ based investors, as those with a high concentration of US$ exposure tend to hedge at least a portion of this anyway—in order to mitigate currency volatility and better match assets to liabilities—regardless of their views on the potential for a US$ crash. Scenarios 3 and 4 present more of a challenge.

[2] For a detailed discussion of this topic, please see our 2004 report *Global Inflation Hedging*.

[3] In the 1970s, an increase in consumer price inflation preceded the US$ crisis. The U.S. dollar fell slightly against non-U.S. currencies from 1972 to 1973, then appreciated through 1977 before coming under severe pressure. In short, the U.S. dollar declined against goods and services in the early part of the 1970s before suffering a full-blown crisis at the end of the decade. While this is clearly different from the current environment, it is reasonable to examine the performance of financial and real assets during the 1970s as a proxy for what might be expected during a US$ crash.

To Hedge or Not to Hedge…

Assuming an investor is satisfied that portfolio diversification will provide adequate protection against the more benign currency declines described in the first two scenarios, said investor should then ask both whether it is worth protecting against more disruptive outcomes and what form of protection would be appropriate—i.e., what is the true objective? To find an asset that holds its value or appreciates enough to support spending so that other investments (e.g., equities) do not have to be sold at depressed prices? To reduce volatility over the short term? To preserve wealth over the long term, accepting short-term volatility and/or opportunity cost? Thus, building on the above discussion, investors should first determine what sort of US$ decline they are concerned about, and then decide what protection they are seeking. This context is needed to evaluate if further action should be taken to hedge such an event.

For example, one could argue that investors with mainly US$ liabilities—e.g., most U.S. colleges, universities, and non-profits—have no business "protecting" against the direct currency impact of a decline in the U.S. dollar, since the risk of being wrong (i.e., that the U.S. dollar appreciates against these hedges, thus hampering one's ability to service said liabilities) could outweigh the benefit of being right. In other words, while the real value of assets would almost certainly fall, this does not *necessarily* mean an investor would have increasing difficulty servicing US$ liabilities, depending on how correlated revenues and liabilities are with overall price inflation. While this is, of course, unknowable *a priori*, for an investor that reasonably believes revenues will track price inflation similarly to costs, investments designed to profit from a declining currency are more speculation than hedge. Non-U.S. investors, meanwhile, must decide whether the risk of a US$ decline is large enough—and if such an event would be damaging enough—to justify increasing their hedge against US$-based investments, or scaling back such holdings. However, the effects of Scenarios 3 and 4 would be broader than any currency effect, likely hurting financial assets of all sorts, particularly in Scenario 4. Investors interested in hedging against a more devastating US$ crash or collapse must then evaluate the potential opportunity cost of such hedges against the protective benefits they would expect to receive.

For investors that decide a US$ crash or collapse is worth hedging against, things grow more complex. We outline the major investment strategies and asset classes investors should consider below, but it is important to note that the challenge of selecting *which* strategies to choose is, to borrow a phrase, more art than science. Investors must also recognize the inherent difficulty in protecting against these types of outcomes from a fiduciary standpoint. For example, a U.S. institutional investor in the early 1970s that *knew* the coming decade would feature double-digit inflation, negative real returns on equities and bonds, and huge increases in commodity and real estate prices would have needed to put a substantial portion of its portfolio in real assets just to preserve its value![4] Given the investment restrictions that prevailed at that time, it is doubtful many institutions could have done such a thing even had they wanted to; today, we imagine few (if any) committees would be willing to put themselves out on such a thin limb, regardless of whether such actions would be permitted by law or their investment policy statement. There is an old adage that the "winner" in a bear market is the investor that loses the least, and we think a similar sentiment applies here as well.

[4] We are, of course, referring to this distinct time period, as many investors that stuck with equity-heavy portfolios (and were able to remain solvent) regained their wealth in real terms over the two-decade bull market that began in 1982.

Our Currency, But Your Problem

In 1971, after the United States severed the link between the U.S. dollar and gold, Treasury Secretary John Connally famously told European finance ministers that the dollar was "our currency, but your problem." Today, non-U.S. investors must feel much the same as those ministers—reliant to a large degree on the value of the U.S. dollar, but powerless to do anything about it. That said, the impact of a US$ crash on non-U.S. investors would depend largely on how it played out, and it is thus worth thinking through some different alternatives.

(As an aside, we of course recognize that many non-U.S. investors already hedge currency exposure as a matter of course, and that such policies could result in an asset/liability mismatch depending on how quickly a US$ crash occurred and/or the structure of the currency hedge. While a discussion of this topic is beyond the scope of this paper, interested clients should consult our 2009 report *Currency Hedging*.)

For the first two scenarios, the impact on non-U.S. investors would likely be quite similar to that on U.S. investors, with the difference depending on which currencies were appreciating against the U.S. dollar. (In other words, returns for an unhedged U.K. investor and a US$-based investor with identical portfolios would differ only to the extent the pound fluctuated against the U.S. dollar.)

Thus, investors most "at risk" from these scenarios are likely those in emerging countries—particularly Asia—that have stronger fiscal positions and growth prospects than the United States. Said a different way, we believe that absent a crisis, the next leg of the US$ decline will occur more against emerging currencies than developed currencies, partly because the dollar has already fallen fairly substantially against most developed currencies (at least prior to the recent euro implosion), but also because emerging countries are in better financial shape. Therefore, it is certainly conceivable the U.S. dollar could undergo a dramatic devaluation against Asian currencies, but remain flat or even appreciate against the euro. In such an environment, a euro-based investor would actually be better served, *ceteris paribus*, by owning U.S. equities versus European equities.

Things are more complex for Scenarios 3 and 4, as market and economic disruptions would accompany currency shifts. Thus, non-U.S. investors looking to hedge against these types of scenarios must consider not only the potential impact of a US$ crash on their home currency, but also to what degree a US$ crash would upset the global economy and financial markets.[5] Would price inflation sparked by the US$ decline extend to the rest of the world, as it has historically? Would crashing U.S. equity markets pull down European and Asian markets, or would investors seeking refuge from rapidly depreciating currencies boost equity markets? Would Asian capital markets finally make good on their long-promised ability to "decouple," or would the region be pulled down along with Western developed markets, as it was in 2008? These are but some of the questions investors must consider.

Further, investors must consider how authorities' actions will impact markets. For example, we are hard pressed to come up with a plausible scenario where other developed markets central bankers sit idly by and watch the U.S. dollar plunge, as the negative impacts on exporters, not to mention banks and investors (including government entities) that hold large US$-denominated positions, would be substantial. Thus, the political

[5] It goes without saying that in these scenarios, the challenge of hedging the macro risk on financial assets becomes more important than the direct currency impact, particularly for portfolios with diversified currency exposures.

pressure to engage in competitive devaluation (akin to the "beggar-thy-neighbor" policies[6] from the 1930s) would be enormous. Further, the issues facing the U.S. dollar (large and growing debt load, huge and likely unserviceable promises to pay retirement and medical benefits) are arguably of even greater concern to Europe and Japan; therefore, there seems a strong possibility that a US$ crash would pull down other developed currencies at the same time. Such analysis also applies to Scenario 4. In short, were global investors to lose faith in the U.S. dollar as a store of value, it seems unlikely the euro, pound, or yen would be viewed more favorably.

This exercise is complicated even further for private clients or institutions that spend in multiple currencies, such as some foundations, and particularly for investors that define their "base" currency as a basket of various currencies.[7] Per the above discussion, investors using a basket approach would not be protected were developed currencies to fall in concert. Our recommendation for clients in this situation is to think through the implications of a broad currency crash and determine to which currency they would likely gravitate, then design a hedging strategy from there.

Options and Choices

We outline below the various asset classes investors should consider. As mentioned, non-U.S. investors could also sell U.S. assets or hedge out US$ exposure, but such actions would likely be far from adequate to protect a portfolio from significant losses.

Gold

Gold is an obvious choice to protect against a US$ crash, although a major risk is that governments have a history of nationalizing gold during such periods. While recent developments such as gold exchange-traded funds (ETFs) make this more complicated, investors should be aware that the precedent exists. Given the willingness to suspend rights during crisis periods—witness the 2008 U.S. ban on short selling, as well as the forced conversion of bank preferred debt to equity—we have little doubt such a plan would be, at the very least, seriously considered were things to get to that point. We would expect gold to do very well in Scenarios 3 and 4, but underperform financial assets, perhaps significantly, in Scenarios 1 and 2. Regarding whether one should purchase physical gold versus buying a gold ETF, we are agnostic. Storage and insurance costs for physical gold are generally comparable to the total expense of an ETF, and liquidity is similar (assuming gold is stored with one of the large banks that deals in bullion). While some prefer physical gold due to fears that gold held through ETFs might not be accessible in a true crisis, it is not clear to us that holding gold would be an advantage in such an environment. In short, given that gold plays essentially no role in commerce or investment today (i.e., virtually no one actually makes payments in gold), it is simply not plausible to expect it to assume such a role in a financial crisis.

The pros and cons of owning gold, irrespective of what form the US$ decline takes, are:

Pros

- **Expected real return of zero.** In an inflationary environment, investors may revert to the old adage about favoring return *of* capital over return *on* capital.

[6] Essentially, all countries attempted to boost their economies by devaluing their currencies and limiting imports. The result, of course, was a worsening of the Depression as trade ground to a virtual halt.

[7] Most U.S. foundations consider their liabilities US$-based even if they make grants around the world, as the grants are typically made in US$ terms and the legal minimum spending requirement is based on the US$ value of assets.

- **Potential for parabolic spike.** If investors grow concerned about the validity of paper money, there could be a rush into gold that drives prices sharply higher. This is particularly the case since gold is not widely held by investors. According to Barclays Capital, gold owned through ETFs represents a mere 5 basis points of private global wealth. While there are, of course, other ownership methods, gold represents a tiny fraction of investment assets; any significant shift to own gold by the investment community would likely have a dramatic effect on the price.

- **Performed well in 1970s inflation.** Gold returned 12% a year in real terms from 1973 to 1981, when U.S. consumer price inflation ran at a 9.2% annual clip. Gold's return trailed only that of oil; for an investor with the foresight to buy gold in 1973 and sell in September 1980, annualized returns were a whopping 23.8%.

- **Also a good hedge against deflation.** While many investors think of gold as an inflation hedge, it can also provide a bulwark against the type of malign deflation experienced in the 1930s, when trust in the banking system and the government erodes and people seek alternate means to store their wealth.

Cons

- **Expected real return of zero.** In a world where inflation is held in check and deflation is not severe, gold will likely represent opportunity cost as it trails financial assets.

- **No income stream.** To some degree, an investment in gold is *always* speculative, as there is no dividend, earnings, or maturity date by which to value it; thus, gold is simply worth what someone is willing to pay for it. Further, the inability to value gold makes it difficult, if not impossible, to evaluate its downside price risk.

- **Maverick risk.** Gold remains a relatively "fringe" investment, and if inflation remains in check, holders of gold could be forced to justify their rationale for holding it.

- **Nationalization risk.** As noted above, the precedent exists, and it is not hard to envision the government seeking to limit or outlaw gold ownership in a currency crisis.

Gold-related equities are another option, but return expectations are significantly different than they are for physical gold. While returns were similar to those of gold prices in the 1970s, one could argue gold equities were boosted by the lack of an easily accessible alternative to buying gold, such as the GLD; investor options at the time were essentially limited to buying gold equities, coins, or futures. The performance of gold equities would also be dependent to a large degree on how other commodity prices performed, as such prices are a large part of mining companies' costs.

We believe gold equities (particularly junior miners) should be viewed more as a speculation than as a store of wealth. There is certainly the potential for gold equities to outperform gold in Scenario 3, due in part to corporate leverage, but the risk also exists that gold equities will dramatically *under*perform, as they did in 2008.

Commodities

Commodities are generally one of the first areas to be considered as a currency hedge, given their status as "real" assets likely to appreciate in price if the value of currency falls. This is particularly true for the U.S. dollar, since most commodities are priced in US$ terms. (This discussion focuses on diversified, collateralized commodity futures, such as strategies represented by the DJ-UBS

and S&P GSCI™ indices, which are the most common method for investors to directly access commodities; natural resources equities and private energy investments are discussed below.) While commodities might do well on an absolute basis in the first two scenarios, they would probably lag financial assets (although this would also depend on supply/demand and other factors); we would expect the asset class to be one of the top performers in Scenario 3, as it was in the 1970s.[8] While commodities might outperform financial assets in an environment of hyperinflation, they would likely suffer losses in real terms due to plunging economic activity. Pros and cons for commodities are the following:

Pros

- **Priced in U.S. dollars.** Commodities provide an especially effective hedge against a US$ decline since they are priced in U.S. dollars, and thus likely to reflect at least a portion of currency weakness.

- **"Hard" assets.** Commodities are real, tangible items with inherent value. Thus, while the value of such assets could fall in real terms due to slack demand, it will not go to zero as financial assets can (and do).

- **Solid performer in 1970s inflation.** The Goldman Sachs Commodities Index returned 3.3% in real terms during the 1973–81 period, but this understates the actual return of commodities by quite a bit since it does not include oil prices, which were not added to the index until 1983 but returned an annualized 18% for the period.

Cons

- **Tied to economic cycle.** The "usefulness" of commodities can be a double-edged sword, as declining demand during a global recession could drive prices lower, particularly in real terms.

- **Real spot prices unlikely to rise over the long term.** New and better technologies have historically driven real spot prices lower over time.

- **Historical returns mainly due to collateral yield.** About 60% of commodity indices' historical total return has come from this return source, which now yields virtually nothing.

- **Negative roll yield.** While positive roll yield was a net contributor for most of the post-1970 period, it has been persistently *negative* in recent years, materially reducing commodity returns. As most markets remain in contango (i.e., future prices are higher than spot prices), it costs investors money to roll their contracts each month, as opposed to *receiving* money when markets are in backwardization. There are various strategies for mitigating this effect, but the major passive indices are currently suffering from this drag on returns.

- **Non-U.S. investors must grapple with the question of whether or not to hedge the US$ exposure.** In other words, said investors must decide whether, in a US$ crash, commodity prices are likely to rise only in US$ terms, or against developed currencies in general.

As with gold equities, natural resources equities represent another way to gain exposure to this asset class, but expected returns are significantly different. Indeed, the issues cited with gold equities (correlation with broad equity markets, margin

[8] It is also worth noting that commodity prices ran up sharply in the early 1970s (i.e., prior to the spike in CPI). While commodities (excluding oil) returned 3.3% a year in real terms for the high-inflation period from 1973 to 1981, this jumps to 7.4% a year when the 1970–72 period—during which the GSCI returned a whopping 76.1%—is included.

pressures due to rising input costs) would likely be even more significant with natural resources equities, as costs are more closely aligned with output prices, and commodities, unlike gold, do not benefit from the prospect of being viewed as a currency. All that said, natural resources equities did perform relatively well in the 1970s, and should be expected to provide at least a modicum of protection in US$ decline scenarios short of a global economic collapse.

Finally, private energy strategies—including oil & gas and minerals & mining—are another way to gain access to this asset class. While such strategies are capacity-constrained and require investors to lock up funds for several years (and may also run afoul of the Foreign Investment in Real Property Tax Act for non-U.S. investors),[9] they also offer, particularly in the case of upstream strategies, fairly direct exposure to the underlying commodities.

Real Estate

Despite the fact that property is a "real" asset, we have long believed such investments are attractive primarily as ways to enhance return and add diversification, as opposed to being a hedge against rising prices, although the cash flow component of REITs and strongly leased core properties could, of course, provide spending support. Real estate is inextricably tied to the business cycle and vagaries of supply/demand; thus, while it is arguably true that *over the long term* prices and rents will rise along with the cost of new construction, real estate would likely do quite poorly in an inflationary bust spawned by a currency crash. This is particularly true today, given the overleveraged and oversupplied[10] state of many real estate markets. Of course, it is also possible certain properties might become highly desirable as a store of wealth in Scenarios 3 and 4. This would be particularly true in a hyper-inflationary environment in which investors' paramount concern is simply exchanging rapidly depreciating currency for something (anything) of value. Pros and cons include:

Pros

- **Tangible asset.** As with commodities, real estate is tangible and should thus have some residual value even in the worst circumstances.
- **Store of value?** In a hyperinflation scenario, buildings could come to be seen as a better store of value than currency, and even than financial assets such as equities.
- **Income.** As noted, real estate should provide income to help support spending during an inflationary environment.

Cons

- **Tied to economic cycle.** Real estate is highly reliant on the economy, and tends to suffer during downturns when rents fall and vacancy rates rise.
- **Highly leveraged.** The extreme leverage in the sector—referring to buildings, not managers—could offset price rises due to a declining currency, as prices have arguably been driven too high by several years of easy credit.
- **Liquidity issues.** Property can be difficult to sell, particularly in a bad economy.
- **Political concerns.** Rent control and other government interventions can negatively

[9] For more details, please see our 2004 report *Global Inflation Hedging*.

[10] While some argue that commercial real estate is in oversupply due to falling demand rather than overbuilding—and thus will be rectified once demand recovers—the question is to what degree demand in recent years was propped up by the credit bubble. In other words, it may well be the case that commercial real estate did suffer from overbuilding, but this was masked by an ephemeral rise in demand stoked by cheap credit.

affect returns and cash flow from property, and such restrictions are often heightened during bad economic environments.

Emerging Markets Currencies

Interest in emerging markets currency products—primarily short-term, cash-like accounts—has spiked lately, as many investors view this as a relatively "clean" bet on the strength of emerging markets currencies. Indeed, such products may give investors exposure to Asian emerging markets, which have stronger fiscal positions than Western developed markets. However, it is important to note that we have no way to predict how such products would perform under a US$ crash scenario, particularly given the political issues involved (i.e., with the U.S. dollar crashing, pressure on emerging markets to devalue their currencies would be overwhelming). Further, manager holdings can vary widely. Investors looking to benefit from a US$ decline should look for a manager that owns currencies of economies with stronger fundamentals—i.e., likely to appreciate against the U.S. dollar over time—as opposed to a manager that holds, for example, currencies of heavily indebted emerging European countries.

We would expect emerging markets cash products to do best under the first two scenarios (particularly Scenario 1), although they *might* also do well during hyperinflation given the better fiscal positions of many Asian markets. Pros and cons of these strategies include the following:

Pros

- **"Clean" hedge against falling U.S. dollar.** If the U.S. dollar goes down, something else must go up, and currencies of countries with stronger economies and fiscal profiles seem like good candidates, particularly if the US$ decline is more or less orderly.
- **Easily accessible through several managers.** The number of investable products has grown along with investor demand.[11]
- **Liquidity.** While liquidity conditions typically worsen in a "crisis" environment, emerging markets debt and cash markets are, at least for the moment, more liquid than in the past.

Cons

- **Untested in crisis environment.** Most of these products are new and have not weathered a currency crisis, and there are legitimate reasons to question how they will perform under such conditions. Indeed, emerging markets currency products performed quite poorly in 2008, although clearly this was due to the fact that investors responded to the crisis by flooding *into* the U.S. dollar.
- **Emerging markets currencies have a checkered past.** Recent examples include the 1997 Asian crisis, 1998 Russian debt default, and 2002 Argentine default.
- **Central banks may not allow currencies to rise.** Given the heavy reliance on exports in most emerging countries, it seems unlikely that central banks in these countries would simply allow their currencies to appreciate (thus hurting competitiveness) in a global economic downturn.
- **High fees.** Many products have hedge fund–like fees, and returns from what is essentially a pure currency play may not be enough to support spending absent a very large commitment (~10% or more).

[11] For details on these products, see our May 2010 Market Commentary *Emerging Markets Currency Funds: Time to Hitch a Ride on the Local?*

- **Strong historical returns due in large part to carry.** Historical returns have come primarily from carry (i.e., funding the purchase of high-yielding currencies with lower-yielding debt), but given the decline in rates in recent years, we expect prospective returns to come from currency appreciation. Therefore, historical performance provides little insight into future returns.

Non-U.S. Developed Markets Bonds

Investors could also buy non-US$ *developed markets* sovereign bonds, of course, which could be beneficial in the event that a US$ crash spurred growth fears, thus driving demand for bonds and pushing yields down. A recent example of this was the huge rally in German bunds, U.K. gilts, and U.S. Treasuries on the back of the Greek debt crisis. However, a US$ crash would obviously have far greater implications, and, as noted earlier, developed markets central banks would likely feel significant political pressure to devalue in the event of a severe global downturn. Thus, developed markets sovereigns would likely perform well in Scenario 2, particularly during periods when the U.S. dollar is overbought relative to most currencies, although as noted, we do not believe well-diversified investors need "protection" for such scenarios. They would likely be most *useful* in Scenario 3, but *only* in the relatively unlikely event that such a global downturn was not met with competitive currency devaluations. It is also worth noting that most developed markets are in a similar situation with regard to deficits, and thus less likely to perform well as a hedge in a crisis scenario.

Pro

- **Liquidity.** Highly liquid and likely to remain so in any environment outside of Scenario 4.

Cons

- **Opportunity cost.** Yields are low across the globe.
- **Tactically unattractive.** Neither comparative yields nor currency valuations are currently compelling.

Unhedged Equities Denominated in Other Currencies

While some U.S. investors view non-U.S. equities as a US$ hedge, this would likely only be the case in the event of a more orderly US$ decline. Put simply, such equities are unlikely to provide investors[12] with protection against a US$ crash given their inherent leverage (at the corporate level) and bottom spot on the cash flow food chain. Such a position effectively encompasses two distinct positions that need not be entwined—a non-US$ currency position and an equity position. While such positioning *could* prove beneficial, it muddies the waters quite a bit. In short, the only way non-U.S. equities would "work" as a US$ hedge is if the currency decline did not have significant adverse effects on the global economy (i.e., Scenarios 1 and 2). As noted earlier, we do not believe such eventualities are worth hedging given the equity-centric (and increasingly global) portfolios held by most large investors. Pros and cons are the following:

Pro

- **Non-US$ denominated.** If the U.S. dollar crashes, it stands to reason that non-US$ currency appreciation will at least cushion losses for unhedged cross-border investors.

Cons

- **Assumes US$ crash will have minimal economic impact.** While investors might get a boost from the currency component of their equity holdings, we would expect economic

[12] Whether this should be viewed as "protection" or "opportunity cost" depends on one's home currency. For US$-based investors, non-U.S. equities could be used to hedge a US$ crash, while for investors based outside the United States, the act of not investing in U.S. assets is more a case of foregone opportunity.

dislocations from a US$ crash to hit equity markets worldwide.

- **Encompasses currency *and* equity positions.** Total allocation would be expected to perform poorly if equities decline along with the U.S. dollar, but decline may be muted to some degree by the currency exposure.

Conclusion

As noted, we would not recommend investors implement hedges to protect against the first two scenarios, as a diversified portfolio should perform well under such circumstances. Hedging against the latter two scenarios, meanwhile, entails a good deal of guesswork, not only about how, exactly, such scenarios would play out, but also about how authorities would respond and how different asset classes would perform.

Our base recommendation for investors looking to hedge the risk of a US$ crash along the lines of the third scenario is to diversify into hard assets—particularly those that do not suffer from over-supply. While gold would likely be the best alternative for preserving wealth in such a scenario, particularly if global economic demand were to contract meaningfully, investors must consider how much they are willing to own, what impact it might have (to support spending or preserve wealth) at that allocation, and the opportunity cost of being wrong.

In the fourth scenario, gold would likely be, by far, the best choice, although other areas such as desirable real estate, factories, farmland, or other tangible assets could also play a role in preserving wealth. Regarding gold, it is also important to note that prices could suffer significant losses if governments were to, for example, implement austerity measures and scale back "stimulus" policies more quickly than expected, as has been floated recently in Europe. While this is not our expected outcome, the price risk to gold under such an environment is not really measurable. Of course, neither is the potential height to which gold could ascend if fiscal and monetary policies remain extraordinarily loose for an extended period of time.

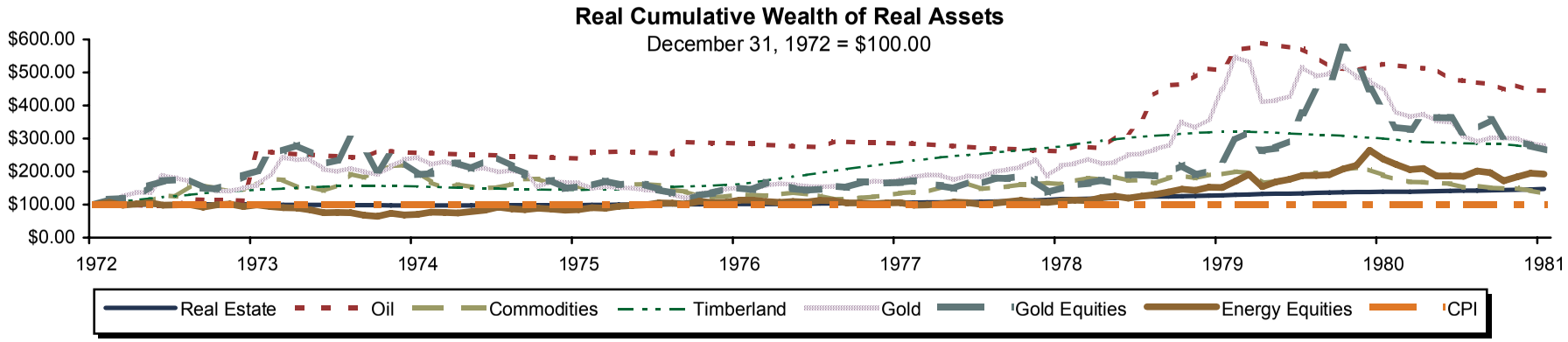
We share investors' frustration with the difficulty of hedging against a US$ crash. Further, the unique nature of the current environment—with virtually all major developed countries carrying unsustainable, rapidly growing debt loads—makes historical analysis less useful than usual. The bottom line is that there is no magic bullet to protect one from the crash of the world's reserve currency. To begin with, all such strategies involve a large element of guesswork given the political and macroeconomic factors involved. Indeed, even though we believe the U.S. dollar *must* decline in the long term absent significant and painful policy changes—e.g., raising the Social Security retirement age by several years, sharply reducing pay and benefits for government workers, scaling back health care spending dramatically—we cannot rule out the possibility that the first scenario could provide a less painful "solution" to this problem. Further, the sizing necessary to make such a position worthwhile is likely more than most investors can stomach (or justify from a fiduciary standpoint), not to mention the huge opportunity cost and career risk if the U.S. dollar does *not* crash.

Put simply, the crash of the world's reserve currency under a purely fiat currency system is something neither we, nor anyone else, have yet witnessed, and guesses on how it would play out are just that—guesses. In other words, we cannot point to similar environments in the past and glean lessons from how they played out. Thus, for investors worried about this issue, decisions about what to do come down to what one believes … and what one believes is worth hedging. ■

Exhibit 1

Asset Class Returns During High Inflation Period

January 1, 1973 – December 31, 1981

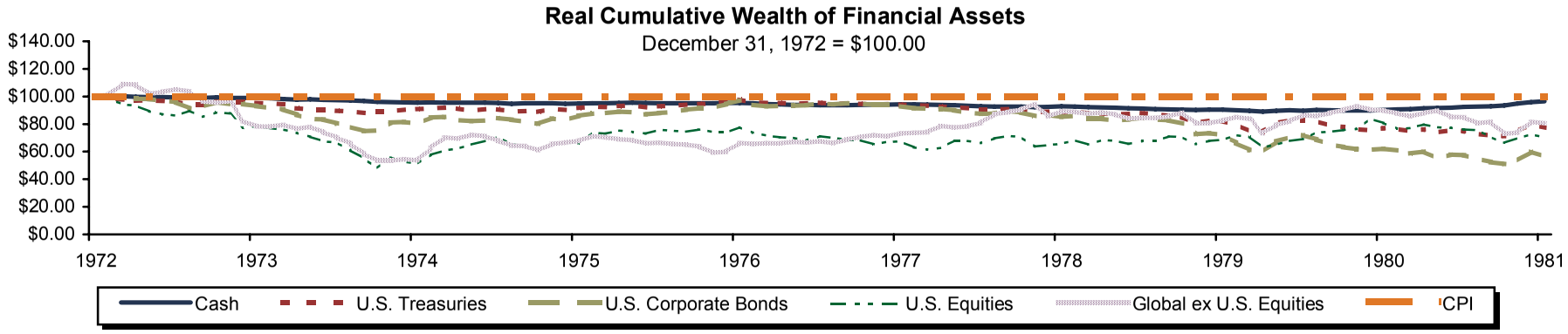


	Average Annual Compound Returns		Cumulative Real Wealth of $100 Invested
	Nominal	Real	
CPI	9.2	0.0	$100.00
Real Assets (and Equities Tied to Real Assets)			
Real Estate	14.0	4.4	$147.25
Oil	28.9	18.0	$444.51
Commodities	12.8	3.3	$133.75
Timberland	21.9	11.6	$269.50
Gold	22.4	12.0	$278.23
Gold Equities	21.7	11.5	$265.60
Energy Equities	17.5	7.5	$192.44

Exhibit 1 (continued)

Asset Class Returns During High Inflation Period

January 1, 1973 – December 31, 1981



	Average Annual Compound Returns		Cumulative Real Wealth of $100 Invested
	Nominal	Real	
CPI	9.2	0.0	$100.00
Financial Assets			
Cash	8.8	-0.4	$96.46
U.S. Treasuries	6.2	-2.8	$77.37
U.S. Corporate Bonds	2.5	-6.2	$56.39
U.S. Equities	5.0	-3.8	$70.35
Global ex U.S. Equities	6.6	-2.4	$80.61

Sources: BofA Merrill Lynch, Barclays Capital, Citigroup Global Markets, Federal Reserve, Global Financial Data, Hancock Timber Resource Group, MSCI Inc., National Council of Real Estate Invest Fiduciaries, Oil & Gas Journal Energy Database, Prudential Realty Group, Standard & Poor's, *The Wall Street Journal,* Thomson Datastream, and U.S. Department of Labor - Bureau of Labor Statistics. MSCI data provided "as is" without any express or implied warranties.

Notes: While the purpose of this exhibit is to show returns during the high-inflation period (as defined by the CPI) from 1973–81, hard assets such as commodities and gold also ran up significantly in advance of this period, as markets appeared to anticipate the coming inflation. All data are monthly except for Timberland and PRISA, which use quarterly data. For graphing purposes, we have interpolated monthly values for these series using quarterly data. CPI represented by the Consumer Price Index-U; real estate by the Prudential PRISA Index; oil by the posted price for West Texas Intermediate; commodities by the S&P GSCI™ Index; timberland by the John Hancock Timberland Index, gold by the gold bullion spot price; gold equities by the S&P 500 Gold Index calculated by Global Financial Data; energy equities by the Global Financial Data S&P Energy Index; cash by returns calculated by Cambridge Associates using yields from the Federal Reserve from 1973 to 1977 and the BofA Merrill Lynch 91-Day Treasury Bill Index from 1978 to present; U.S. Treasuries by the Barclays Capital U.S. Treasury Bond Index; U.S. corporate bonds by the Salomon Brothers High-Grade Corporate Bond Total Rates of Return Index from 1973 to 1979 and the Citigroup AAA/AA Corporate Bond Index from 1980 to present; U.S. equities by the S&P 500 Index; and global ex U.S. equities by the MSCI EAFE Index.

Gold Options and Futures

Appendix

For investors with limited liquidity, or those whose primary motivation is profiting from a US$ crash (as opposed to wealth preservation), gold options and/or futures may be worth a look. While some investors may be wary of derivatives strategies, these would provide far greater "bang for the buck" were gold prices to soar.

Options

As with insurance (more specifically, catastrophic coverage), an investor in long-dated, out-of-the-money gold options would view the premium as "lost money," and expect the policy to only pay off in a worst-case scenario. The payoff would also expected to be quite high given the embedded leverage in such strategies. To be clear, leverage applies only on the upside—investor "risk" is strictly limited to the upfront premium paid for the option(s). There are two ways to implement such a strategy—either buy a single long-dated option (commonly called a "bullet"—Appendix Exhibit 1), or purchase a sequence of calls laddered by maturity. For example, an investor might buy call options with strike prices 50% out of the money (i.e., above current prices), with maturity dates one, two, three, four, and five years in the future, then purchase another five-year contract in each successive year.

The main drawbacks to using options are behavioral—investors are prone to abandoning such strategies right before they pay off, often because the price of the insurance begins to rise sharply. Appendix Exhibit 2, for example, shows how volatility in GLD spiked when the financial crisis erupted in late 2008. Thus, we believe an investor should establish strict buy/sell rules prior to implementing an options strategy. Another concern is that an investor faces the prospect of ongoing premium payments if the expected event fails to materialize.

For a bullet position, meanwhile, investors must weigh the trade-off between a longer-dated option that will cost more (and thus have less embedded leverage) and a shorter-dated position that requires more frequent re-upping. Investors must also decide *when* to roll the option; particularly with a bullet strategy, there would be a dramatic difference in time value between purchase and expiration, thus exposing one to the possibility the hedge fails to pay off *even if the expected event materializes*.

The bottom line is that in order for options strategies to be successful, investors must be right not only on the eventual event, but on the timing as well (given the inexorable time decay of premiums). Thus, we believe investors should implement this type of strategy *only* if they have firm commitments to (1) the amount they are willing to spend on premiums, and (2) an iron-clad sell/roll discipline.

Futures

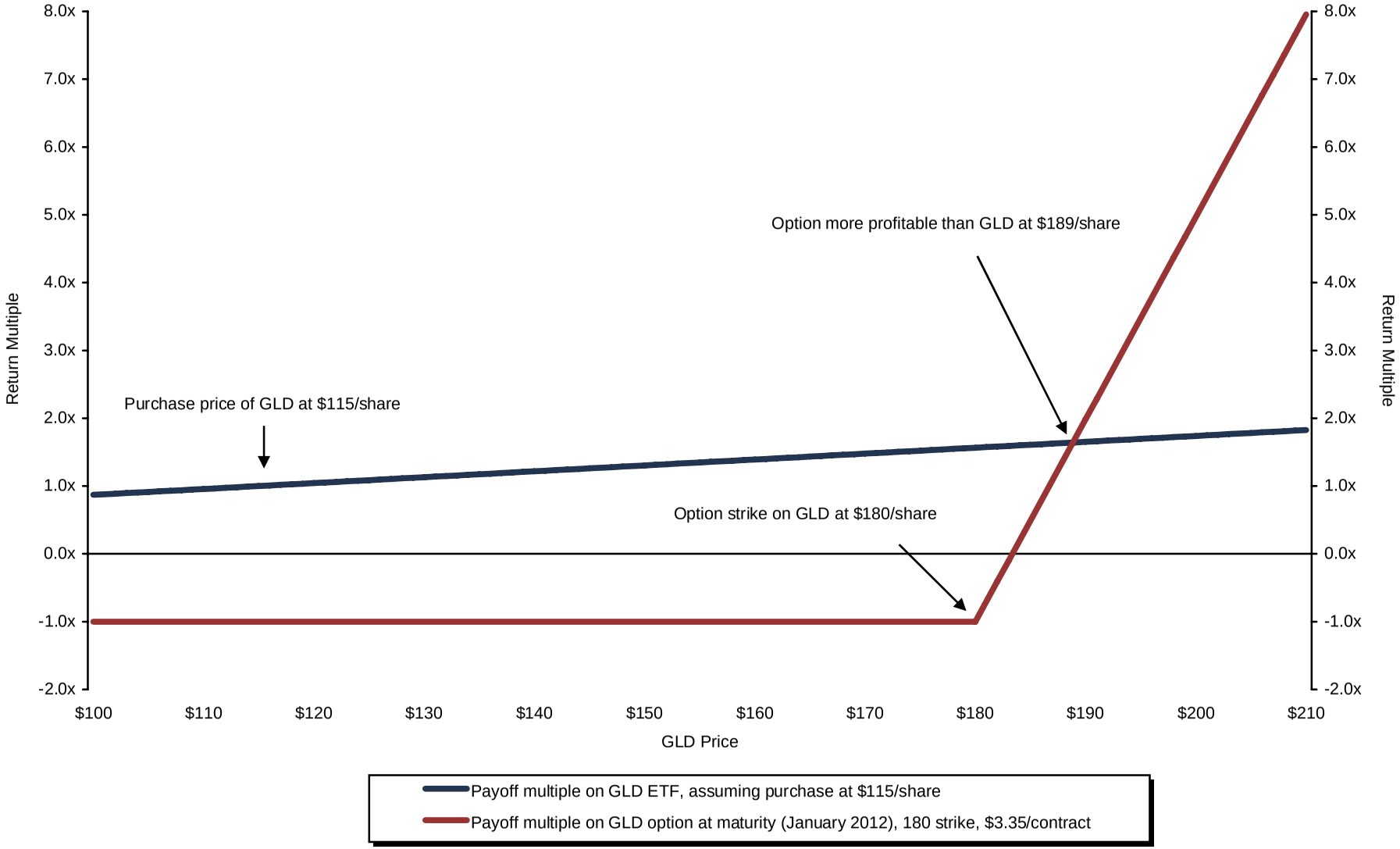
Futures offer a somewhat simpler alternative—investors essentially choose how much leverage they want to take on, then fund a margin account to achieve this. For example, an investor that wanted 2 times leverage would fund 50% of the position, while one wanting 4 times leverage would fund 25%, etc. The main drawback to futures is the possibility of a margin call if gold prices fall; obviously, the higher the leverage, the

greater the chance this will occur. In other words, the cost of futures is less defined than that of options, and investors must also make sure they have adequate liquidity to fund margin calls.

The main benefit of futures (relative to options) is that there are no premium payments—the investor simply funds the margin account and rolls the futures periodically (generally once a month). While the gold market (unlike other commodities) is essentially always in contango (i.e., futures prices are higher than spot prices, and thus it costs money to roll your position each month), such costs generally reflect storage costs (which are pretty constant), insurance, and interest rates. In other words, the costs of buying gold through futures are similar to those of buying physical gold and storing it (or buying a gold exchange-traded fund). ■

Appendix Exhibit 1

GLD Versus GLD Call Option



Source: Bloomberg L.P.

Appendix Exhibit 2

Premium and Implied Volatility for GLD Call Options: One-Year, 10% Out of the Money Option

June 9, 2008 – July 31, 2010

Sources: Bloomberg L.P. and Thomson Datastream.