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Fed Tightening Ahead, But Will It Be Too Soon? *4*

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Underinvestment in Commodities Means Markets Will Be Tighter, Sooner

Years of underinvestment in commodity-industry capacity means that the global economy may run out of capacity in core commodity industries, including energy, much sooner than normal in a typical business cycle. Prices are likely to rise sooner, and to higher levels, than the norm

With signs that the global recession is abating and that the recovery is underway, at least in the US, we have revised our outlook for commodities to a neutral investment recommendation after more than a year of recommending an underweight position. Our analysts now expect commodities (in the form of the Goldman Sachs Commodity Index, or GSCI) to return 8% this year, up from a -32% return in 2001, and we expect second-half performance to be above 10%.

Our recommendation, and our expectation that we will shift rapidly to an overweight recommendation as the economy gains momentum, turn on our assessment that this commodity cycle is likely to be sharply different from previous cycles. Years of underinvestment mean that capacity in the core commodity industries is much tighter than is the norm in a downturn. Accordingly, commodity prices are likely to rise sooner, and to a higher level, than is typical during a recovery.

The Revenge of the Old Economy

Typically, commodity prices bounce off recession lows, then stabilize until demand has picked up enough to push the markets back into a significant deficit. This process normally takes a few years. Only thereafter do commodities usually generate sustained high returns that last through the rest of the expansion and into the beginning of the next recession.

This time, we think the current cycle will follow a notably different pattern. In the 1980s, new-economy industries began to absorb a disproportionate share of new capital investment. This shift accelerated into the 1990s, significantly slowing capacity growth in old-line commodity industries even as strong global economic growth pushed demand to new highs and commodity markets into historically large deficits.

Normally, such large deficits would have generated massive price increases, and the resulting cash flows would have driven an investment boom that would have created a capacity overhang (often not actually coming on line until well into the next expansion) that would have kept commodity industries in surplus for years.

In the late 1990s, however, the Asian financial crisis temporarily aborted the commodity rally before the investment boom gained real momentum. And even as the commodity rally took hold again in 1999 and 2000 (the GSCI returned 41%in 1999 and 50% in 2000), overall investment remained low. This reflected the bubble in the technology and telecommunications sectors, as well as the bruised balance sheets of commodity companies that had not yet recovered from the Asian crisis and the resulting collapse in commodity prices.

Capacity increases have been modest at best and in some industries have shown outright declines. The pipeline of new projects and prospective capacity increases is extremely limited. On a net basis, less capacity than normal was built and less is coming on line than in almost any prior business cycle—against a backdrop of existing capacity that was already inadequate relative to prior peak demand levels, let alone against the increases in demand that are likely once the next expansion takes hold.

As a result, we expect to run out of capacity in the core commodity industries much sooner than normal once the global recovery is firmly under way. Commodity prices are likely to rise sooner and higher than average. The normal post-recession price bounce may well become a sustained rise, allowing for the possibility of both significant returns from direct commodity investments and risks to other asset classes, if higher commodity prices are seen as potential inflation threats that could constrain monetary policy and directly hurt equity valuations.

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Even in those industries, such as natural gas, where prices did reach unprecedented levels and significant new investment did occur in the late 1990s, the existing deficit in underlying infrastructure means those investments are less efficient than in the past. Given the over-exploitation of mature fields and dearth of new fields, new drilling is required just to maintain current natural gas production; outright capacity declines will occur whenever drilling rates slow.

This process is already well under way with the recent collapse in gas prices, and it is likely to become even more pronounced. We think still-weak natural gas demand will force prices lower in the short term, as all available US storage capacity will likely be filled before next winter.

The key risk to our view is that the expansion may be modest and slow in taking hold. As discussed on page 4, our US economists expect growth in the second half of 2002 to be notably slower than in the first. Consequently, demand growth for commodities may be slower than normal in a recovery. But capacity is so low that even a modest recovery will cause strains in a number of key commodities, including aluminum, oil and natural gas.

In the short term, with energy demand still weak and storage levels still quite high, we think natural gas, oil and petroleum-product prices can fall further. But this should reverse rapidly later in the year, as long as the economic recovery sustains any significant momentum. Surpluses exist in metals, but because the storage situation is not nearly as critical, the market may begin pricing in the improvement well before underlying fundamentals start to turn.

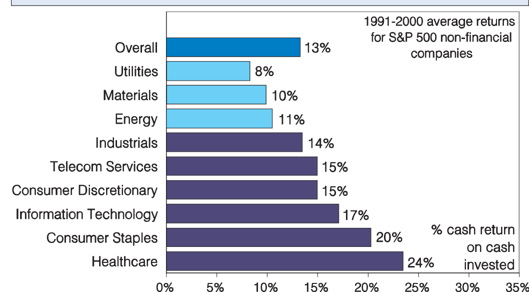
Returns on Capital Drove 1990s Investment Decisions

The background to the underinvestment in commodity capacity is straightforward: as a result of overinvestment in the 1970s, returns on invested capital were lower than those seen in other industries. These relatively low returns continued through the 1990s and were exacerbated by the 1997-1998 Asian financial crisis. Consequently, commodity industries failed to attract new capital, and investment flowed elsewhere.

This can be seen in an analysis of the cash return on cash invested (CROCI) by sector for S&P 500 non-financial companies during the 1990s business cycle. This measure of post-tax, pre-interest cash flow from operations relative to gross cash invested is a useful measure of companies' ability to generate returns. Over the period, the average annual return on gross capital invested was 13%.

However, the three commodity sectors—utilities, energy and materials (including metals and paper)—were well below the average; they generated about half the return observed in the information technology, consumer staples and health care sectors. As a result of these low returns, as well as of the higher cyclical variation in CROCI in the energy and materials sectors, insufficient infrastructure and capacity were built to deal with the levels of commodity demand achieved at the end of the last expansion.

1990s Investment Flowed to Sectors Producing Higher Returns on Capital



Source: Compustat; Goldman Sachs.

The investment that went to technology and health care in the 1990s starved the commodity sector of the risk capital it needed for expansion. The Asian crisis and then the recession damaged demand and prevented the emergence of the economic incentives that would have encouraged investment to flow back toward commodities. Accordingly, the net increase in the global commodity productive infrastructure during the 1990s lagged net increases in prior business cycles.

Now there is an insufficient pipeline of new capacity to deal with the level of demand likely in even the early stages of the next expansion. Underinvestment will only be remedied once prices rise enough to generate competitive rates of return.

Underinvestment: Three Examples

Energy capacity is low. Growth in global oil production capacity was only 1.4% per year during the 1990s business cycle, versus an average annual growth rate of 2.8% in the five prior business cycles. Though investment held up well in the first half of the decade, the Asian financial crisis crippled growth thereafter. Very low oil prices pushed capacity down by about 590,000 barrels per day in 1999. This was unusual in that closures in oil capacity typically occur only during recessions.

Continuous investment is particularly important for the energy sector; without it, high decline rates quickly erode the productive capacity of oil and gas fields. The combination of little investment in new drilling rigs plus over-exploitation of older fields has caused US natural gas wellhead production to become increasingly reliant on new investment just to maintain current levels of production.

Near-term demand remains sufficiently low that we expect all available US natural gas storage capacity to fill before next winter. Prices will fall further, wells will need to be shut and drilling will fall even further. But this will only exacerbate the rebound that we expect will begin either next winter or the following summer, depending on the speed of the rebound in industrial demand.

The same pattern is visible in downstream markets. Global oil refining capacity grew at just 1.0% annually in the 1990s, versus 3.9% annually from 1961-1990. By the 1990s, excess capacity built in the 1960s and 1970s had mostly been worked through; growth over the last decade has kept production capacity barely ahead of rising world petroleum demand. Global oil refining capacity is roughly back to where it was in 1982, but daily petroleum demand has risen a cumulative 30% since then.

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Aluminum capacity is also low. Global primary aluminum smelting capacity grew 2.4% annually in 1991-2000, near the low end of the historical range. Lower capex required higher rates of utilization to keep supply in line with rising global use toward the end of the cycle. Had the global economy not moved into recession last year, we think demand would have exceeded available annual production capacity and drawn inventories to minimum operating levels by the third quarter of 2001, sparking a significant price rally. Instead, the business cycle ended before inventories fell low enough and prices rose high enough to encourage new commodity investment.

The result of this 'missed bull market' is that the undercapacity problem was never resolved. It will reemerge once demand levels move back toward trend. As industrial activity recovers, global aluminum use will quickly recover to, and then exceed, constrained production levels. Because bringing new productive capacity on line takes time, inventories will be the only buffer to equilibrate supply and demand. Given the size of current inventories, pricing pressures are likely to rise, particularly in 2003 and 2004.

Copper looks like an exception, but the pattern holds. Through the 1990s business cycle, global copper refining capacity grew at an annual rate of 3.2%, versus an average of 3.8% in the seven prior cycles—almost normal, with an apparent pickup late in the 1990s. At first glance, this appears to contradict the overall pattern of underinvestment. But much of the pickup was due to a single project (the world's largest copper mine in Chile) sparked by the price rallies of the late 1980s. Only the long lead times needed to install new capacity in this industry create the impression that investment flows rose in the late 1990s.

No similar projects are in the works today. Consequently, capacity growth over the next few years is likely to be low. Global refining capacity increased by only 0.9% in 2000, and we forecast it to grow at an annual rate of only 0.8% through 2005.

1990s: A Cycle Interrupted

The copper example emphasizes how investment can be delayed, borrowed or interrupted across cycles. The distinction between 'borrowing' and 'interrupting' investment is critical for understanding why this cycle is different from the past. Below-normal commodity investment also characterized the 1980s business cycle. But this was because a significant portion of the commodity investment that 'should' have occurred then had already taken place in the 1970s. High commodity price inflation in the 1970s caused capacity growth, in effect, to be borrowed from the 1980s. By the time the 1980s cycle actually started, this capital stock was already in place and therefore did not need to be duplicated. This appears in the data as above-trend investment in the 1970s and below-trend investment in the 1980s. But despite low investment flows in the 1980s, global demand did not exhaust installed capacity and buffer inventories until 1988.

In contrast, some of the investment that should have occurred in the 1990s still has not. Interrupted by the Asian crisis, then the tech boom and finally the recession, it has yet to arrive. Consequently, as the next cycle begins, the commodity capital stock remains below trend, and the missing investment is likely to be keenly felt.

Our forecasts for global real GDP and industrial production growth imply that demand will reach supply levels in most commodity markets early in this cycle, meaning that inventory draws will begin sooner than normal. And because the supply constraints already in place have made for lower metals inventories and higher production-decline rates in energy than are normal during a recession, the situation should turn sooner than in the past —even though spurred by a smaller demand increase—resulting in high prices early in the cycle. ■

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Fed Tightening Ahead, But Will It Be Too Soon?

With a stronger US GDP growth forecast for the first half, we now expect the Fed to raise interest rates modestly this year. Our new year-end federal funds rate forecast is 2.5%, up from 1.75%. But European rates will not necessarily follow the Fed

Reflecting the more rapid swing from inventory liquidation and the somewhat firmer path for consumer spending evident in the first quarter, we have revised our 2002 US GDP forecast to 2.4% from 1.9%. We still think the second half of the year will be notably slower than the first; our quarterly forecasts show a sharp deceleration from 5.0% (annualized) in the first quarter to 3.0% in the second and 2.5% in the third and fourth.

Goldman Sachs Key Economic Forecasts

% change	GDP (year-on-year)			GDP (quarter-on-quarter annualized)											
				2001				2002				2003			
	2001	2002	2003	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
US	1.2	2.4	3.0	1.3	0.3	(1.3)	1.4	5.0	3.0	2.5	2.5	3.0	3.5	3.5	3.5
Euroland	1.5	1.2	2.4	2.1	0.3	0.8	(0.7)	1.2	1.8	2.8	3.0	1.8	2.2	2.5	2.7
Japan	(0.5)	(1.4)	0.8	4.1	(4.8)	(2.1)	(4.5)	0.1	0.0	(0.5)	0.3	1.1	1.6	1.6	1.1

This second-half slowdown should reflect a fading contribution from inventories, slow domestic final sales (averaging only 2.0%-2.5% annual growth throughout the year) and weaker consumer spending due to sharply lower mortgage refinancing activity, higher energy prices and slowing wage growth.

We also think the recovery in capital spending will be more subdued than is generally anticipated, reflecting depressed capacity utilization rates and the involuntary cutbacks in capital outlays imposed upon highly leveraged firms by the unavailability of attractive capital-markets financing. With the 40% (on a trade-weighted basis) appreciation of the dollar since 1995 eroding US trade competitiveness, a persistent trade drag will also restrain real GDP growth by some 0.75%.

Higher GDP growth has few implications for the still-benign inflation outlook (our 2002 forecast is for 1.3%). This is because non-farm productivity growth will also be firmer, holding down unit labor costs. We think unemployment will drift a bit higher, peaking at around 6%. This will be an important limit on the magnitude of any monetary-policy tightening this year.

Tightening Too Soon?

We now expect a modest tightening of monetary policy of about 75 basis points this year, in the form of 25bp moves at each of the June, August and September FOMC meetings.

Although we do not see a compelling reason for the Federal Reserve to tighten this year, it is increasingly evident that many Fed officials are using a different template as their guide to monetary policy. Whereas we would emphasize the lack of a significant easing in financial conditions, many Fed officials are more focused on the absolute low level of the federal funds rate.

The idea that seems to have gained some currency at the FOMC is the need to take back some of the 'insurance' easings made after September 11, now that they are no longer needed. There is also a view that the Fed needs to get started soon, if it is going to return to a neutral fed funds rate of 4.0%-4.5% sometime this year. We do not agree, for three reasons:

- Even with the 'insurance' rate cuts, financial conditions have not moved appreciably since the Fed began easing in January 2001. Thus there is little evidence that the Fed has over-eased.
- Inflation is very well behaved and likely to moderate further. The emphasis in 2002 should be on growth, not inflation.
- The risk/reward trade-off of tightening too early versus too late is skewed. Tightening too early runs the risk of a renewed downturn, deflation and a liquidity trap. Tightening too late implies a modest upturn in inflation. We think the Fed should wait until final demand growth can clearly be sustained at a healthy pace.

If our view is correct, then the Fed will tighten financial conditions prematurely, which will slow the economy in the second half. This in turn should lead the Fed to pause later this year, once growth slows and the unemployment rate drifts up. Our interest-rate forecast is well below current market expectations of some 125bp-150bp tightening by year-end, which we consider much too pessimistic.

Europe: Following the US?

The Euroland and US economies have been closely synchronized over the past two years, and we expect this to continue. A robust US recovery can help to kick-start Euroland by boosting exports. And a turn in the inventory cycle provides a catalyst for recovery. Thus Euroland GDP growth is likely to turn positive in the first quarter.

But the sustainability of the recovery is questionable, largely due to poor near-term prospects for final domestic demand. Investment has fallen for five successive quarters, but capacity utilization is still easing; we expect at best a stabilization over the next several quarters. Private consumption will recover only slowly, mainly due to lower inflation.

Once the recovery is firmly under way, the European Central Bank (ECB) will want to return interest rates to a neutral level of 3.75%-4.0%. But this is unlikely to occur before the fourth quarter. The ECB has much less tightening to do than the Fed to restore rates to a 'normal' level. Fiscal policy is much tighter in Euroland than in the US. Structural reforms are back on Europe's agenda; although we do not expect much near-term progress, the ECB will want to promote a helpful climate. The euro remains considerably undervalued, and inflation prospects are favorable even without a recovery in the currency.

Again, we are considerably more optimistic than the market. The risks to our view are that 1) the economy rebounds very rapidly; 2) new governments fail both to tighten fiscal policy and to pursue structural reforms; 3) a sharp rise in oil prices keeps inflation above the ECB's target; and 4) the euro weakens sharply. But financial markets seem to be pricing in these risks to a much greater extent than we think likely. In fact, if the euro recovers sharply, the ECB may cut rates again. ■