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COMMODITY  
MARKETS AND THE  
DEVELOPING  
COUNTRIES

A WORLD BANK QUARTERLY

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FILE COPY

Nonfuel primary commodity prices declined a modest 1.8% despite large increases and decreases in individual commodity prices. Food and agricultural raw material prices were higher while metal and mineral prices were lower. Petroleum prices were 2.8% higher.

**CHANGE IN QUARTERLY AVERAGES, 3Q95 TO 4Q95**  
Percent

<b>Nonfuel</b>	-1.8
Food	+2.2
Beverages	-11.2
Cocoa	+0.9
Mild coffee	-17.8
Tea	+15.7
Fats and oils	+5.9
Grains	+7.1
Other	-5.6
Agricultural raw materials	+3.4
Cotton	+1.8
Natural rubber	+17.1
Timber	-2.8
Metals and minerals	-4.6
Aluminum	-9.5
Copper	-3.4
Tin	-5.5
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## SUMMARY

The boom in commodity prices that began in 1993 appears to be over for most commodities. The increase carried the World Bank index of nonfuel commodity prices up 33.5% when comparing the annual average low of 1993 to 1995. When compared on a monthly basis, prices increased 42.1% from the low in April 1993 to the high in March 1995. Since the high, the index has declined 7.5% on a monthly basis.

Commodity prices continued to decline in the fourth quarter but at a slower pace than in the previous quarter. The index of nonfuel primary commodity prices fell 1.8% as food and agricultural raw material prices moderated the weakness in metal and mineral prices. On a calendar-year basis the index average increased 9.3% in 1995 com-

pared with the 1994 average. Crude petroleum prices (not included in the non-fuel index) averaged 2.8% higher than in the third quarter and 8.2% higher in 1995 compared with 1994.

Food prices overall increased only 2.2% as mild coffee prices fell 17.8%. Prices of grains rose 7.1%, fats and oils 5.9%, and tea 15.7%. The rise in tea prices represents a recovery from the downslide during the first three quarters of the year. Ending stocks of grains in the summer of 1996 are expected to be the lowest in at least three decades when measured as a stocks-to-use ratio. Grain prices are therefore expected to stay high over this period. The cocoa market is relatively stable as production is forecast to meet most of current demand, although the season is likely to be the fifth consecutive deficit crop.

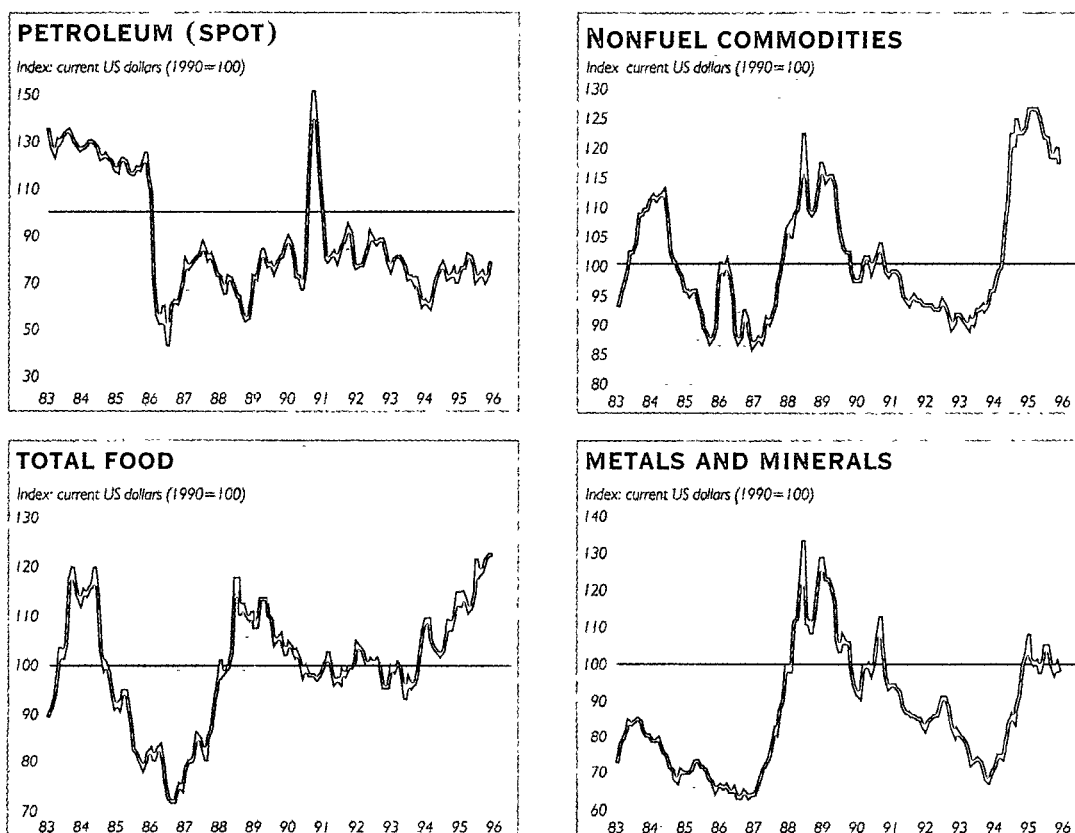
Agricultural raw material prices rose 3.4% during the quarter and 7.5% during the year compared with the previous periods. Natural rubber prices jumped 17.1% in the quarter as Malaysian production declined, in spite of slow growth in the major automobile industries. Malaysian timber prices fell slightly due to slack demand in Japan. Cotton prices increased slightly.

The metals and minerals price index (excluding steel) fell 4.6% during the quarter but rose 20.1% during the year compared with the previous periods. Aluminum demand was stagnant during the quarter from weakening construction in Europe and sluggish consumption in Asia due to recession in construction in Japan, the Republic of Korea, China, and Taiwan (China). The futures market for copper in New York has remained in backwardation in anticipation of increasing supplies from new projects worldwide. Much of the industry operated on slim stocks late in 1995.

Fertilizer prices are expected to remain firm for another year due to high crop prices and limited surplus production capacity. World demand for fertilizer is expected to increase as much as 3% over the next crop year.

# COMMODITY PRICE INDICES

**FIGURE 1. WEIGHTED INDEX OF PRIMARY COMMODITY PRICES FOR LOW- AND MIDDLE-INCOME ECONOMIES**



**TABLE 1. WEIGHTED INDEX OF PRIMARY COMMODITY PRICES FOR LOW- AND MIDDLE-INCOME ECONOMIES IN CURRENT DOLLARS**  
1990=100

	Agriculture												
	Nonfuel commodities Petroleum (100.0)	Food							Raw materials		Metals and minerals		Fertilizers (2.7)
		Total (69.1)	Total (29.4)	Grains (6.9)	Fats and oils (10.1)	Other (12.4)	Beverages (16.9)	Total (22.8)	Timber (9.3)	Total (28.1)			
<b>Annual</b>													
1993	73.6	91.6	99.1	98.6	93.6	111.5	90.7	84.9	110.3	152.4	74.0	83.7	
1994	69.4	111.9	123.7	106.9	102.1	126.0	93.9	150.4	125.8	156.6	84.6	93.4	
1995	75.1	122.3	131.5	116.9	120.3	136.6	98.8	152.0	135.2	139.5	101.6	103.6	
<b>Quarterly</b>													
4Q94	72.1	122.5	133.3	110.8	101.9	135.9	95.3	177.8	129.5	149.3	98.5	96.3	
1Q95	75.1	126.3	136.4	113.4	104.9	135.1	100.4	169.1	141.8	142.1	103.6	101.7	
2Q95	79.3	124.3	134.9	112.7	110.6	131.0	98.8	163.7	142.3	143.1	100.2	102.6	
3Q95	71.9	120.5	128.0	119.5	128.4	136.1	100.9	145.7	126.0	138.4	103.7	102.6	
4Q95	73.9	118.3	126.6	122.1	137.5	144.2	95.3	129.4	130.5	134.5	98.9	107.5	
<b>Monthly</b>													
1994 Dec	69.7	123.1	132.3	115.2	102.8	140.4	101.4	163.0	131.8	145.2	102.9	96.7	
1995 Jan	73.6	126.1	134.3	111.7	104.6	134.7	96.9	166.5	139.7	147.8	108.5	100.1	
1995 Feb	75.8	126.0	136.6	115.1	104.7	135.2	104.5	166.6	142.1	141.4	102.2	102.6	
1995 Mar	75.8	126.6	138.4	113.4	105.5	135.4	99.8	174.4	143.9	137.2	100.1	102.6	
1995 Apr	81.5	126.3	137.5	111.2	104.4	131.0	98.7	170.5	147.2	141.4	101.0	102.6	
1995 May	80.5	124.6	136.4	111.5	108.8	129.6	98.2	167.1	145.7	143.8	97.7	102.6	
1995 Jun	75.9	121.9	130.8	115.3	118.6	132.5	99.4	153.5	134.1	144.0	101.9	102.6	
1995 Jul	70.3	121.7	129.2	121.7	127.8	138.5	104.5	145.0	127.3	141.8	105.0	102.6	
1995 Aug	72.0	121.5	128.7	118.2	125.4	134.2	101.0	152.9	124.4	138.5	105.6	102.6	
1995 Sep	73.5	118.3	126.1	118.6	131.8	135.6	97.2	139.2	126.2	135.2	100.6	102.6	
1995 Oct	70.5	118.1	127.0	121.7	140.3	141.2	95.3	135.3	127.8	135.2	97.6	103.8	
1995 Nov	73.2	119.7	128.1	121.9	134.8	144.0	96.5	134.2	131.6	133.8	100.1	108.9	
1995 Dec	78.1	117.1	124.8	122.6	137.4	147.4	94.0	118.6	132.1	134.6	99.1	109.8	

Note: Weighted by average 1987-89 export values for low- and middle-income economies.  
Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit.

## PRECISION FARMING PROMISES A RANGE OF EFFICIENCY GAINS

On most farms today input application and farming methods are the same for entire fields and usually for the entire farm. But new technology is being developed that will allow farmers to manage their fertilizer, seed, and water application rates, and perhaps even their farming methods, down to the field level—or even smaller. This kind of control could result in efficiency gains in agriculture similar to those that have been occurring in industry during the past decade and could contribute to food production increases well into the next century, as populations and incomes increase food demand.

The new farming method, referred to as precision farming or site-specific farming, will allow farmers to adjust applications and methods to individual locations within each field, according to soil and other field characteristics. Being able to micro-manage farming in this way could reduce average input use, boost average yields, and lessen stress on the environment. Although this new technology will require new investments and more precision in all aspects of farming, the potential benefits appear to justify the additional expenses.

The technology for precision farming has several parts. The key components are the ability to identify each field location; to collect data on soil types, fertilizer requirements, water-holding capacity, and the like; and then to vary input use and farming methods to maximize profits from each part of the field. Farmers will be able to monitor crop growth and check for disease, pests, and water stress using satellite or aircraft photos or computer images of their fields. Harvesting equipment will automatically record and store crop yield information for use in planning next year's crop. Many farmers will begin to micro-manage their farms using only a part of the technology, since even partial application of the system can bring substantial benefits. In fact, using the entire

system may not be profitable in all applications, but some of the new technology will apply to almost any situation.

The new farming methods are already being used in Europe and the US and could be available in other countries in a few years. Use currently focuses mostly on high-value crops such as vegetables, fruits, and cotton, but the technology will eventually be profitable even on lower-value crops such as grains. Farmers in the midwestern US are using the technology in high-yielding soybean and maize areas. And farms need not be highly mechanized to benefit. Because an important advantage of the new system is greater understanding of a field's characteristics and quicker identification of pests, disease, and plant stress, even low-tech farmers can benefit.

The new method of farming will also be more environmentally friendly. Fertilizers and chemicals will be applied to each hectare in optimal amounts, avoiding the overapplication and runoff into neighboring streams and municipal water supplies that results in some locations under the current method of equal application rates for entire fields or farms.

One of the major technological components that has made precision farming possible is the ability to identify the latitude and longitude of any location on earth from radio signals from a network of satellites. These satellites are owned by the US government and became available for public use in the past few years. The system, called the global positioning system (GPS), was developed by the US Department of Defense and was originally designed for military use. It consists of a \$10 billion collection of 24 satellites. With this system and a small receiver, any position on earth can be identified within 100 meters. A location can be identified to within 1 square meter when the receiver is used along with a ground reference station.

This system is now used in aviation, shipping, and even by sport enthusiasts to find their way in unfamiliar terrain. It has just

begun to be used in farming. And once the position of a field site is known, many other technologies can be applied. Site positioning will allow farmers to identify characteristics of each field site and store this information for future use. Planting and input application equipment can be programmed to follow application instructions or to monitor crops based on field location. As data are collected over several years, farmers will be able to program the planting, fertilizing, watering, and harvesting of individual fields according to their natural variability.

A second technological component that has made precision farming possible is the ability to image fields from low-flying planes or satellites. Satellite imaging has been available since the 1960s, but it has only recently become capable of the detailed imaging needed to help farmers identify disease, water stress, and other features important to farming. What changed is the new combination of GPS and better imaging techniques from satellites or low-flying planes designed specifically to monitor crop growth. These digital images look like photographs, but they are computerized records that can be stored, analyzed, and compared. The photographs give a bird's-eye view of fields that cannot otherwise be seen, such as the middle of a field of sugarcane. An aerial image can show the entire field and spot disease or water stress sooner than ground inspections, allowing treatment to start before the problem spreads to other parts of the field. The global positioning system can then be used to pinpoint the area for closer examination.

A consortium of US companies is scheduled to launch four satellites in 1998 or 1999 that will provide detailed crop maps for any location on earth every three and a half days. A ground receiving station will interpret the signal and print color maps for locations as small as a tenth of a hectare. Farmers will be able to purchase maps showing their own

farms. For now, much of the imaging is being done with prototype satellite sensors flown in airplanes. This system uses specially filtered video cameras mounted in aircraft to detect selected frequencies of visible light and infrared energy reflected from the ground. Unlike satellite data, video-recorded images based on the selected frequencies can be viewed and analyzed as soon as the plane lands.

A third component making precision farming possible is the research that has been done on interpreting the information in satellite images. The Agricultural Research Service of the US Department of Agriculture has been doing research into remote-sensing capabilities for nearly three decades. The National Aeronautics and Space Administration (NASA) and private companies and universities have also been researching this topic.

Applications for global positioning systems are still to be developed, but one promising application is to combine global positioning and satellite imaging to produce more detailed maps of plant growth than have ever been possible, allowing farmers to get more precise responses from each field. The technology that makes this possible is called the Geographic Information System (GIS). GIS is a computerized data storage and retrieval system that allows the analysis of multiple data sets for improving crop production management. Data on soils, yields, fertility soil tests, seed types, and other field characteristics are stored along with their geographical reference and time of measurement. The GIS software can then analyze these data and display information in maps that allow better understanding of the relationships between yields, fertility, drainage, weeds, and other factors. Such information can provide valuable insights for researchers and could lead to improved understanding of crop production and the interaction between these various factors.

## AVOIDING FAILURES IN DERIVATIVES MARKETS

Recent failures among users of derivatives markets have highlighted certain risks in using these markets. As Codelco (the Chilean copper mining company), Metallgesellschaft, Orange County (California), Procter & Gamble, Baring's Bank, and Daiwa Bank, among others, have found out, traders run significant risks in using derivative instruments improperly or in failing to set up adequate systems to record transactions and monitor their positions. In many cases of failure, traders took unauthorized positions, exceeded exposure limits, or made errors that went undetected. In other cases companies used derivative instruments without fully understanding the risk exposure they were assuming.

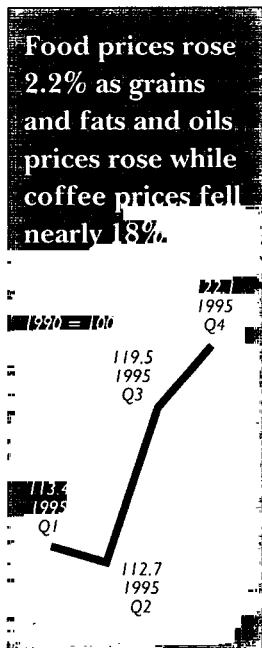
Notwithstanding the significant losses attributed to their misuse, derivatives fill a critical need in global financial and commodity markets. Derivatives allow companies to reduce the risks they face day to day, cheaply and efficiently. Many companies in industrial and developing countries alike have used derivatives to reduce uncertainty and even stabilize extremely volatile cashflows. But companies wishing to use derivative instruments need a clear understanding of their associated costs (including opportunity costs) and benefits and a realistic sense of what these instruments can achieve.

The derivatives market has experienced exponential growth since the early 1980s and today is at more than \$30 trillion, according to some reports. Even after the recent significant losses, the derivatives market is still going strong. Derivatives are clearly here to stay. Proper control and aggressive management—not total abstinence—are what's needed to reduce the risk of using derivatives. Companies need to create a strong risk management infra-

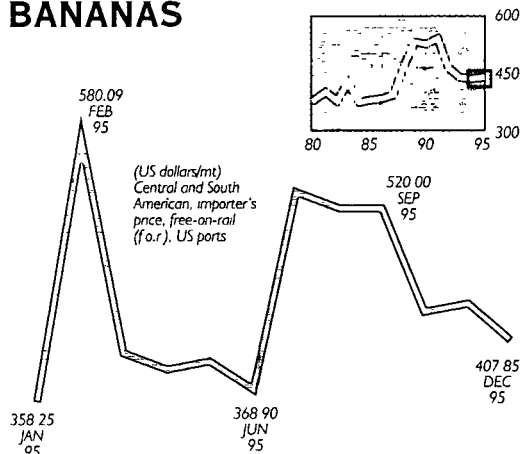
structure for derivatives that clearly articulates the strategic objectives for using these sophisticated instruments and facilitates their effective control and management. There also needs to be agreement throughout the company on priorities and risk strategy, as well as a conceptual framework for managing risks that fits into the overall company strategy.

Here are some steps a company can take to manage its commodity price risks:

- *Define your company's commodity price exposure.* Understand the commodity price risks your company faces. Calculate the impact of a price change on your company's cashflows and balance sheet to give you an idea of the cost of not hedging. Define your company's risk tolerance.
- *Formulate a clear strategy.* Look at ways of dealing with your price risk, including not hedging at all. Understand that while hedging may involve some risks and costs, not hedging may be riskier and costlier. A company that doesn't hedge usually needs to set funds aside or borrow to offset an adverse movement in commodity prices. The cost of not hedging is thus the opportunity cost of funds set aside or the cost of borrowing.
- *Explain the purpose of hedging and hedging strategies.* Everyone who needs to understand the hedging strategies and their costs and benefits must be informed.
- *Select brokers carefully.* Make sure that your brokers have experience with the products your company requires and that the costs (including the opportunity costs) and benefits associated with the products they offer are understood.
- *Monitor positions regularly and develop the appropriate controls.* Set exposure limits and monitor positions to ensure that no unauthorized trades are executed and that errors are detected early. Develop procedures for responding to emergencies. Make sure that trade execution is clearly separated from monitoring and control functions.



**BANANAS**



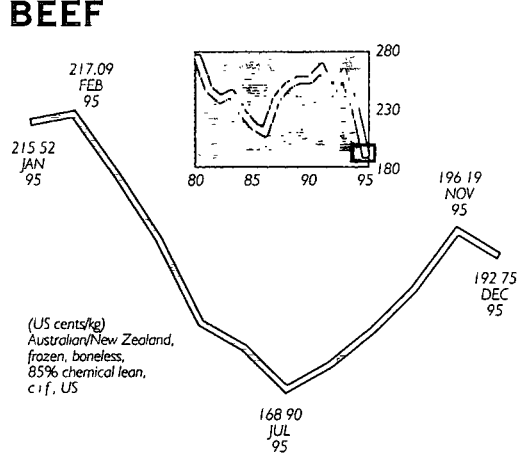
**AMPLE SUPPLIES IN EU AND US PULL DOWN PRICES IN FOURTH QUARTER**

US banana prices in the quarter averaged 19% below those in the previous quarter, but prices for the year were 1% higher than in 1994. Large supplies in the UK exceeded normal demand, and retail prices in the pre-Christmas period were reported to have dropped as low as 19 pence per pound. Overestimates of weather damage to bananas in the Caribbean may have contributed to the unexpected supply in the EU.

The Russian Federation imported 381,700 tons of bananas (fresh and dried) in 1994. Russian banana importers have been a driving force in the trend toward increasing fruit imports. They have been investing in distribution and market infrastructure to increase the capacity for modern ripening facilities and quality protection. Currently, about one-third of Russia's imports arrive as pre-ripened produce through Europe. Other quantities are shipped green directly from South America, and so the new facilities are needed to ensure good quality for consumers.

Norwegian developers have announced a new system that can extend ripening by nearly two weeks from the time bananas come out of the ripening room. The potential for this system is greatest in regions with few central ripening facilities and where distribution areas require trucking of up to five days. The system is expected to be attractive in Eastern Europe and Russia and in the most northern countries in Europe.

**BEEF**



**PRICES DECLINE DUE TO SEASONAL INCREASES IN SUPPLIES**

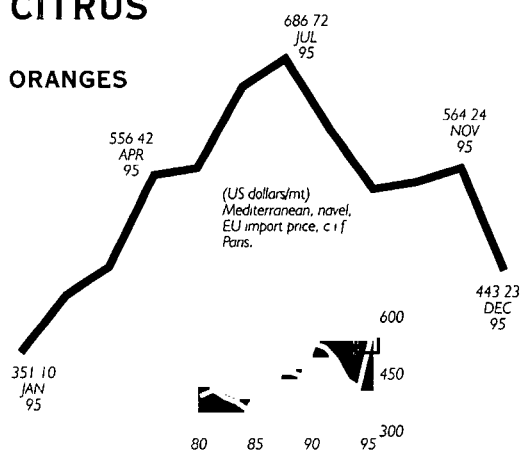
US imported beef prices were generally steady to slightly lower in recent months. The seasonal increase in US domestic production and depressed demand pressured prices downward. The high US slaughter rate compounded the oversupply situation and caused a sharp drop in domestic product prices. The depressed US demand for beef further weakened the demand for imported product. US domestic product undercut Australian imported prices, and a large proportion of grinders chose domestic product over imported. Volumes of Australian beef on offer have been low and demand sluggish. An increase in New Zealand supplies has contributed to the downward trend in price. Prices for imported beef continued to fall in January and February 1996, as many patty users have replaced imported lean beef with much cheaper domestic beef.

Net US beef imports are estimated to decline below 300 million pounds in 1995, compared with 760 million pounds in 1994. In 1996 net US beef imports are expected to be just 5 million pounds. Meanwhile, a surge in US beef exports—to 2 billion pounds, or nearly 13% above the 1995 record—is projected in 1996. Low prices, abundant supplies, rising world incomes, and freer trade are behind the expansion in US beef exports. The closing trade gap in the US is expected to support prices of domestic beef as production peaks cyclically over the next few years.



## CITRUS

## ORANGES

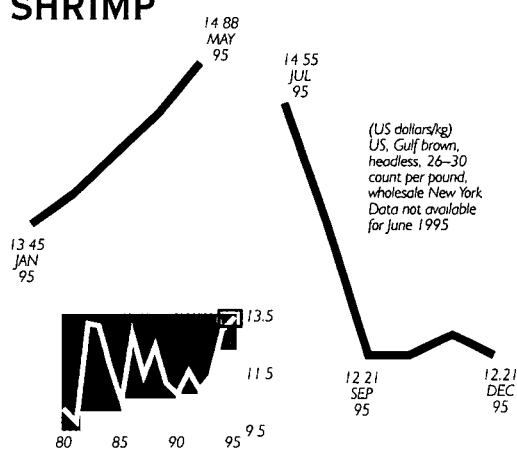


### PRICES OF EU ORANGE IMPORTS RISE 29% IN 1995

Despite falling 15% in the fourth quarter, prices of orange imports in the EU rose 29% for the year. The Mediterranean region's 1995/96 orange production is forecast as marginally below last season's outturn. The substantial declines in production in Greece, Spain, and Turkey were largely offset by strong recoveries of orange output in Italy and Morocco. Exports of oranges from the region are expected to reach 2.733 million tons in 1995/96. Spain is expected to be the leading exporter, accounting for 42% of the total. Israel's orange exports are expected to rise to 195,000 tons in 1995/96. Its export markets for citrus have broadened recently, shifting from a 93.7% share to Western Europe in 1992/93 to a 79.1% share last season as more exports went to Eastern Europe and the Far East.

Under the terms of a Euro-Mediterranean agreement negotiated between Morocco and the EU, a reciprocal free trade area will be set up for the industrial sector over a 12-year period. Access rules for the EU market remain for agriculture, but requirements are eased for a number of products. Between December and May 300,000 tons of Moroccan oranges can be imported at ECU 275/ton (minimum price). Outside this period imports will be at the price laid down within the GATT framework, ECU 369/ton. The agreement must still be ratified by the European Parliament.

## SHRIMP



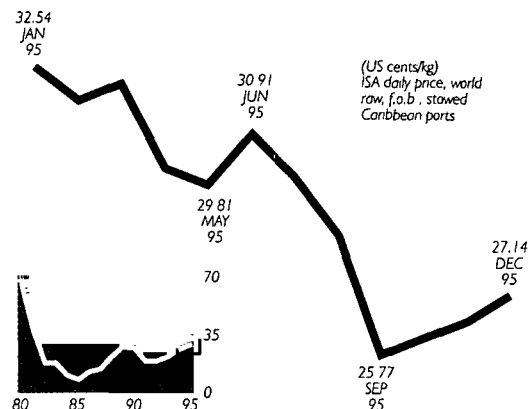
### US EMBARGO ON SHRIMP IMPORTS WILL LOWER SUPPLIES

The US Court of International Trade has issued a shrimp embargo program to all countries exporting shrimp to the US, effective May 1, 1996. This directive is specific to shrimp caught in the wild with gear that may adversely affect turtle populations. The embargo will create shortage in the market, as many countries will be unable to produce the documents required by the ruling. At the same time, US demand for shrimp is expected to increase in the first half of 1996. This, in combination with low production in Asia, is expected to drive prices higher in 1996.

US domestic landings from the Gulf of Mexico increased slightly in recent months. However, supplies from Asia were low as the harvesting season ended in most of the cultured shrimp-producing countries. Landings from the sea in India were also low, as were shipments from Pakistan and Bangladesh. Farmed shrimp production in Ecuador has increased in recent months, but 1996 production may be adversely affected by a lack of wild larvae. In addition, Ecuadorian producers will likely not cover production costs due to the low prices for shrimp in the US market.

In Japan raw material prices increased in recent months due to low harvests in Thailand and other Asian countries. Although January is traditionally a slow trading period in Japan, trade started to recover in February and is expected to continue to procure products for the spring consumption season.

## SUGAR



## EXPECTED SUPPLIES DRIVE DOWN FORWARD PRICES

Prospects for production in 1995 in excess of 120 million tons (compared with 110 million tons in 1994) and a large carryover are expected to push prices well below 10¢/lb during 1996. Shortages remain in tenderable sugar, leaving the futures market in steep backwardation. In New York raw sugar deliverable in March still commands nearly 11.5¢/lb. With large supplies expected shortly from Brazil and the Caribbean, sugar for delivery in July 1996 is discounted to slightly more than 10¢/lb. Long-term prospects are more bearish, with sugar for July 1997 delivery selling for about 9.5¢/lb.

Even in the near term, the shortage of tenderable sugar for nearby contracts does not extend to the market in general. Nontenderable supplies appear sufficient for the physical trade, including supplies from Cuba, which are not tenderable for political reasons, and supplies from the Far East, which are uneconomic to tender since they command a large premium over futures quotations.

With sugar consumption stable, supply increases have resulted in stock buildups. End-of-November stocks are estimated at about 44.5 million tons. Inventories are below recent historic averages but above last year. Stock levels are expected to grow further, with increased exports from Brazil.

India is expected to produce more than 15 million tons of sugar this year while consuming just over 13 million tons. Releases of free sale sugar have driven local prices in

India down from about \$420/ton in July 1994 to \$370 currently. Another 625,000 tons a month of free sale sugar is scheduled for release in January, February, and March.

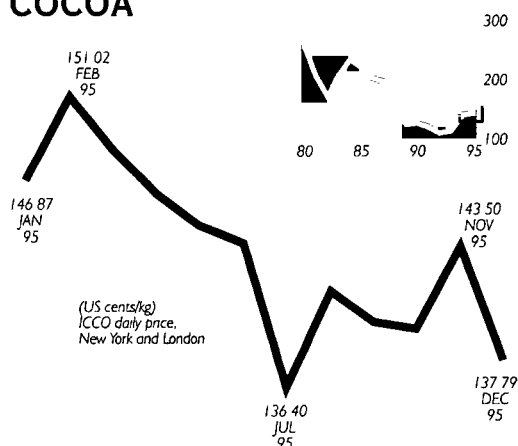
Cuba's production for 1995/96 is now forecast at around 4.5 million tons, substantially above the 3.3 million tons harvested in 1994/95. Still, at the end-of-year session of the Cuban National Assembly, Castro expressed disappointment in the harvest. Having borrowed some \$300 million, primarily from European firms, to purchase inputs, the country faces a substantially larger and more expensive debt than with earlier harvests.

In Mexico, while labor disputes between mills and cane growers have been settled at most mills, growers remain on a no-sales strike against three mills, demanding payment for earlier cane deliveries. The three mills have not started milling this November-June cycle. Still, the settlement of most disputes along with government approval of a 3% boost in wholesale sugar prices will allow Mexico's fledgling sugar exchange, FORMA, to resume operations on February 16. Owners representing all 61 Mexican mills have agreed to use the exchange. Plans call for the eventual evolution of the exchange from spot to forward to future trading. Currently, however, government trade restrictions limit arbitrage opportunities with international markets.

The privatization of Moldovan sugar factories was a mistake, according to the director of the Food Enterprise Department in the Moldovan agriculture ministry. Because of financial constraints and high interest rates, the factories engage extensively in barter deals. Last year the industry bartered a quarter of its 200,000 ton output for energy, parts, and inputs. In addition, beet farmers were paid 40,000 tons of raw sugar for their harvested sugar beets.

In Vietnam Victorias Milling Company, together with Vietnam and British investors, broke ground on a US\$60 million sugar factory with a refining capacity of 4,000 tons of cane a day.

## COCOA



**PRICES STAY PUT DUE TO LACK OF FRESH FUNDAMENTAL**

Cocoa prices were almost unchanged between the last two quarters of 1995. With cocoa harvesting well under way in the fourth quarter, some analysts predict yet another deficit for 1995/96, the fifth in a row. Our projections, however, indicate that this deficit will not be significant because very good crops are expected in Côte d'Ivoire and Ghana.

Cumulative arrivals by the end of December in Côte d'Ivoire were around 650,000 tons, compared with 550,000 tons at about the same time in 1994. However, the current crop is an early one, and several analysts and traders expect a sharp drop in arrivals early in 1996. Some of them say that arrivals had already begun to slow during the last two weeks in December, although it is still too early to say with certainty. Nevertheless, a main crop of 850,000 tons with a total crop of around 950,000 tons is still very possible. For Ghana arrivals by the third week of December were around 259,700 tons, compared with about 208,700 tons a year before. Thus, the crop prospects for 1995/96 remain very favorable, with a main crop projected at around 325,000 tons and a total crop at around 340,000 tons. In Nigeria 1995/96 production is expected to remain at about 1994/95 levels, while for Cameroon production is expected to increase about 5,000 tons, or 5%.

Cocoa production in Indonesia is expected to be a modest 30,000 tons greater than in 1994/95. The pod borer moth is becoming a

major problem for Indonesian growers. Current reports indicate that about 10% of the cocoa growing area is affected and that the spread of the pest is accelerating. Future growth of Indonesian production is expected to be constrained by the pod borer. Production in Malaysia for 1995/96 is projected to decline from its 1994/95 level.

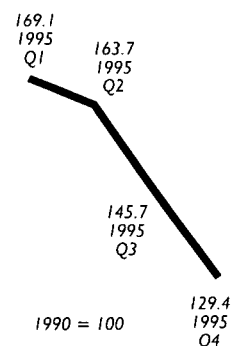
In Brazil arrivals are currently 60,000 tons below last year's. Despite good prospects for the Temporao (mid) crop, there are indications that production will be lower in 1995/96 than in 1994/95. Two negative factors—the witches' broom disease and poor farm care—still hold back yields. Preliminary forecasts put the 1995/96 Brazilian production some 20,000 tons below the 1994/95 production, an 8% decline. It may be necessary for the local processing industry to import cocoa again to keep factories operating.

The hot European summer caused significant declines in third-quarter grindings (an indication of consumption) of 9.9% in the UK and 9.1% in Germany. Grindings rose 9.6% in the US and 1.3% in the Netherlands, however. Fourth-quarter grindings showed increases in the US and the UK of 8.3% and 15.6%, respectively. But grindings in Germany dropped 11% over the same period.

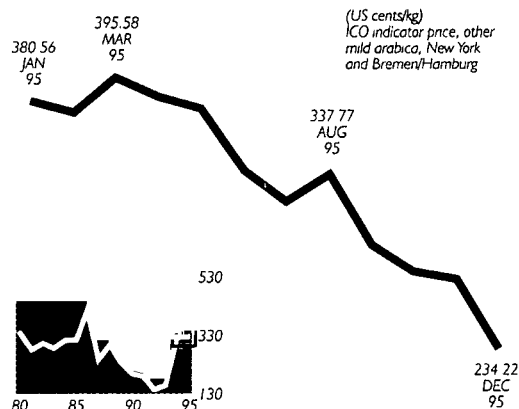
The 1995/96 crop is estimated at about 2.5 million tons. With a projected increase in grindings of 2%, the deficit will be around 60,000 to 75,000 tons. This shortfall could be just about covered by the liquidation of 50,000 tons from the International Cocoa Organization's buffer stock. Thus, although the projected deficit is unlikely to rid the market of its existing stocks, it should justify mildly higher cocoa prices during 1996.

Price developments could change depending on the outlook for the 1996/97 crop. With stagnant production in Cameroon and Nigeria, gradually declining production in Malaysia and Brazil, and production growth rates declining in Indonesia, adverse crop developments in Côte d'Ivoire and Ghana in 1996/97 could greatly affect prices after the summer of 1996.

**BEVERAGES**  
Beverage prices were sharply lower due to the failure of the stock retention program.



## COFFEE



**PRICES CONTINUE TO DECLINE WITH EXPECTED  
LARGE PRODUCTION NEXT SEASON**

World coffee prices continued downward during the last quarter of 1995 despite very low current crops in Brazil and Indonesia. World production for the 1995/96 season is estimated at only 88 million bags, 8% lower than the previous year's crop. Also stocks, especially those held by consumers, are estimated to be at their lowest level in years.

The main reason for the weak price trend is probably the market's recognition of the failure of the stock retention program of the Association of Coffee Producing Countries (ACPC) to raise prices, as intended. These disappointing results prompted some exporters in Brazil, Colombia, and Indonesia to demand abolition of the program. In Brazil a number of exporters quit FEBEC, the exporters association, and formed a new association when FEBEC tried to impose export quotas to force the retention program. As a result, Brazil's coffee exports have been higher than they would have been had all the exporters adhered to the program. In Colombia the National Federation of Coffee Growers, which accounts for about half of Colombia's coffee exports, supports the program, but the private exporters who account for the other half are very much against it.

A basic flaw in the retention program is the absence of penalties for countries that do not retain stocks. Under the export quota system that operated under the Inter-

national Coffee Agreement, future quota allocations were reduced for countries that exported more than their allotted quotas. Also, most of the major importing countries cooperated in maintaining the system by allowing imports only of coffee bearing export stamps issued by the International Coffee Organization.

Another reason for weak coffee prices is the decline in consumption in many countries compared with 1993, when coffee prices were low. World import demand fell 3.5 million bags, or 5%, in 1995 compared with 1993. The sharpest declines were in Central and Eastern Europe and the United States.

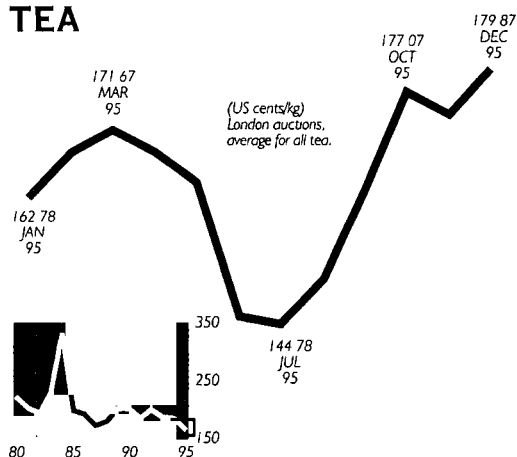
The availability of coffee from the origin is becoming scarce, and roasters are drawing down their stocks to meet their needs. The futures market is in steep backwardation, a signal to the market that more coffee will become available in the future.

Roasters and traders have become much more efficient in managing stocks, and the past relationship between prices and stocks no longer applies. However, stocks currently held in consuming countries, which are estimated at about six weeks of consumption, are considered to be the absolute minimum working stocks required.

Stocks held in producing countries are also estimated to be very low—about 35 million bags—well below the 65 million bags in 1989 and 55 million bags in 1992. Sharp reductions are observed in countries such as Colombia, Brazil, Mexico, Indonesia, and Côte d'Ivoire.

There have been recent changes in marketing systems in producing countries, such as the auction system for coffee and cocoa in Côte d'Ivoire and the warehouse receipt system in Uganda. The auction system, which is based on electronic mail, was to begin at the end of November 1995. Problems with Côte d'Ivoire's telecommunications network delayed the system's introduction until at least January. The new system of allocating export rights will be more transparent than the previous system.

## TEA



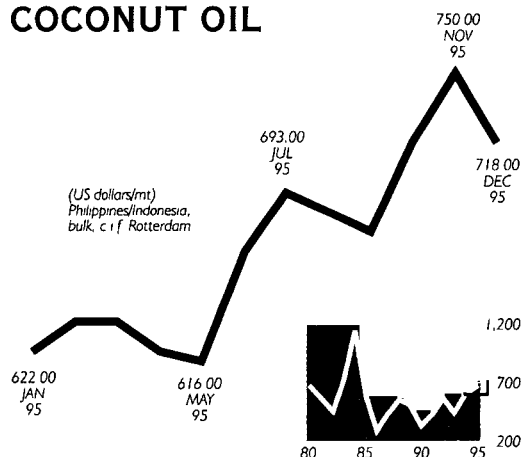
**WORLD PRICES INCREASE BUT ARE STILL LOW DUE TO RECORD CROP IN KENYA**

World tea prices increased during the fourth quarter mainly due to the seasonal factor. Prices have been near their historically lowest level in real terms for a few years. Kenya's record crop—which is estimated at about 240,000 tons, or about 20% higher than in 1994—has more than compensated for the decline in India's production, which is likely to be about 30,000 tons.

Kenya's record output comes mainly from increased yields, as bushes planted a few years ago mature. Kenya's production is reaching the point at which any further increase would result in very little, if any, increase in export revenues. The price elasticity of world demand for tea is low, estimated at around  $-0.25$ , so the price-depressing effect of an increase in volume wipes out any increase in export revenue.

Sri Lanka's tea production has been increasing the past few years, due in part to rising production growth on government-owned estates. However, it has become clear recently that these increases have been achieved at a high cost. One problem is that the private firms that have been managing these estates have not been allowed to purchase them, so investment has been very limited. This year, as the problem became increasingly evident, the government began to sell equity shares in the estates to private firms, including foreign firms. Sales have been slow for many estates because of their low profitability, but some are now owned by private firms.

## COCONUT OIL



**PHILIPPINE PRODUCTION EXPECTED TO DECLINE IN 1996**

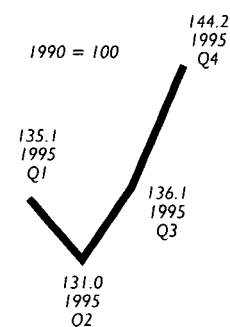
Coconut oil prices are down in recent months, following sharply rising prices since June. Philippine copra production surged to 2.5 million tons in 1994/95, up 800 tons (46%) from a year ago. Production rose to its highest level in more than 15 years in response to a sharp upturn in copra yields per hectare (27%) from the most recent five-year average. This resulted in a significant expansion of Philippine crushings as well as coconut oil and meal output last year and boosted exports of coconut oil to 1.3 million tons.

Since October, however, Philippine coconut oil production has been in a downturn, a consequence of the biological yield cycle and poor weather. The shortfall in production is expected to accelerate in 1996. The dry weather from October 1994 to June 1995 is intensifying the downtrend in the biological yield cycle. Philippine production for the first three quarters of 1996 is expected to be more than 25% below last year. Normally, a year or two of above-average productivity per tree is followed by a year of lower yields, as trees have to recover from overproduction.

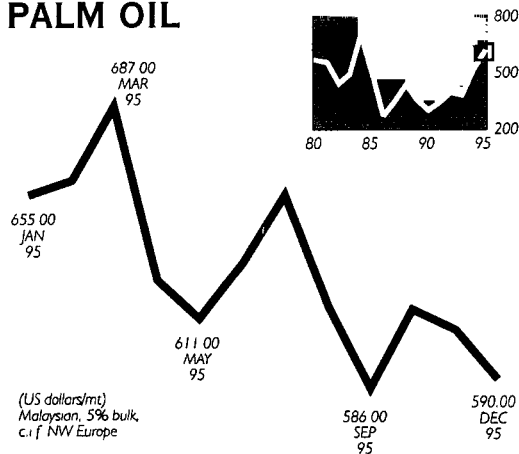
Coconut oil prices came under pressure from palm kernel oil, palm oil, and other oils. Because of large supplies, crude coconut oil prices were discounted up to \$65 relative to palm kernel oil and \$40 relative to crude palm oil in Rotterdam. Production and export availabilities of coconut oil and meal are expected to decline sharply in 1995/96.

## FATS AND OILS

**Prices increased sharply due to lower soybean production and strong competition from other crops.**



## PALM OIL



## PRICES DECLINING AS SUPPLIES EXPAND

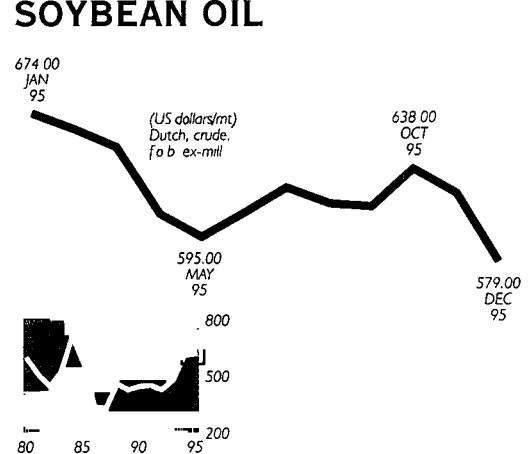
The increased availability of rapeseed oil in the world market, combined with expanding palm oil production, has weakened palm oil prices. Edible oil prices are not projected to increase in 1995/96. The edible oils market is expected to have adequate supplies to meet the anticipated demand expansion in 1995/96.

The EU is projected to consume about 16% of major world vegetable oils in 1995/96. In the US consumption is estimated to be about 8.1 million tons, up slightly from 1994/95. Indian vegetable oil consumption is expected to continue to expand in 1995/96, with much of the growth being met by palm oil.

Given the steady growth in world vegetable oil demand, the oil component of the market is expected to continue its strength in 1996/97, supporting the higher oil-content oilseeds. However, the potential for significant growth in world palm oil production, from the 15.4 million tons projected for 1995/96, will be an important factor contributing to increasing world supplies and moderating the strength of the oil side of the market.

For 1996/97 palm oil production is expected to increase 700,000 tons, following the increase of 900,000 tons in 1995/96. Its production level will be lower than that of soybean oil by only 16% in 1995/96 and 18% in 1996/97. Palm oil is thus moving closer to the combined production levels of rapeseed oil and sunflower oil.

## SOYBEAN OIL



## LOWER WORLD PRODUCTION EXPECTED

World oilseed production is projected to decline in 1996/97 due to shifts in the seeded area from soybeans to wheat and coarse grains, as grain prices remain high. A soybean-corn price ratio of about 2.5 is seen as neutral, with lower values discouraging soybean plantings. The current ratio is about 2.1, and for the 1996/97 crop about 2.3. However, forecasts for higher fertilizer and input costs in 1996 are expected to moderate the shift away from soybeans. US soybean production is projected to decline more than 5% in 1996/97. This, combined with low stocks, suggests relatively high prices in 1996/97.

Soybean production dominates the world oilseeds complex. However, soybean's share of total production is being pressured by the rapid expansion of other oilseeds, such as rapeseed and palm kernels. World 1995/96 soybean production is estimated at 124.5 million tons, down 9% from the 1994/95 record, due largely to lower production in the US.

Projections for a 2.2 million ton decline in the Brazilian soybean crop, to 23.3 million tons, will also contribute to lower world soybean production for 1995/96. The Argentine soybean crop is expected to increase about 300,000 tons, partly offsetting the decline in Brazilian production. In China soybean production declined about 1.5 million tons, to 14.5 million tons, in 1995/96. Combined with continued expansion in demand, this means that China will remain a significant importer of soybean oil.

## GRAINS

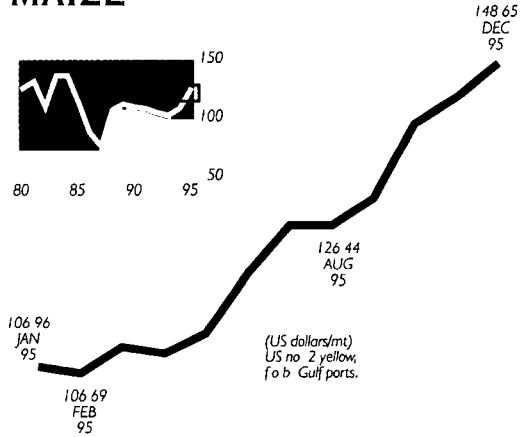
### MARKETS LOOK TO NEXT SEASON'S PRODUCTION

Grain prices continued strong through the end of 1995 as markets adjusted to the low world production and stocks. Total grain production fell 3.7% in 1995/96, and stocks are expected to fall to 13.1% of consumption by the summer of 1996, the lowest stock-to-use ratio since such records became available in the 1960s. Attention now focuses on current crop year demand and next year's production. Early indications are that world demand has not contracted enough to balance demand and supply, which suggests further price increases.

It seems unlikely that production can recover enough to rebuild stocks in a single year. The largest historical year-to-year increase in production since 1960 was 11.1% in 1984. If world grain production were to increase by this percentage, stocks would increase by about 80 million tons and rise to 17.3% of consumption, compared with 17.8% in 1993. This would still put the stock-to-use ratio among the lowest 20% since 1960. If production falls short of this record increase, stocks will remain very low by historical comparison. One factor that suggests that production will not increase as rapidly in 1996 as in 1984 is the difference in US acreage control programs. The US had large acreage control programs in 1983 that were reduced in 1984, whereas current programs are very small. Some increase in area is expected in the US, however, as land flooded last summer is returned to production.

World grain trade is projected to fall about 5% from last year in response to higher prices and generally favorable production in major importing countries. Feed demand in the US has remained strong, and numbers of livestock and poultry have increased over last year, indicating little cutback in potential use. Import demand from East Asian countries has remained strong, and the pace of US exports has been stronger than expected.

## MAIZE



### RECORD LOW STOCKS KEEP PRICES HIGH

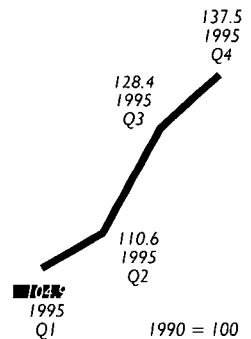
Maize prices rose an average of 12.9% for the fourth quarter and 14.8% for the year compared with 1994/95. Prices rose throughout the quarter, from an average of \$130.5/ton in September to \$148.6/ton in December f.o.b. US Gulf. The sharp increase during the past two years (prices averaged \$102.1/ton during 1993) has been due largely to low world stocks and the poor US harvest. Prices are projected to increase an additional 11.7% in 1996 before subsiding in 1997.

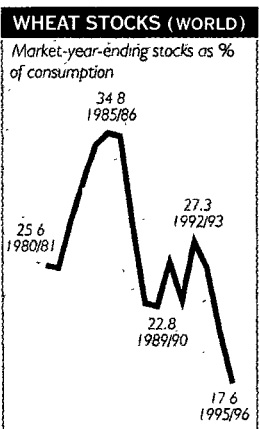
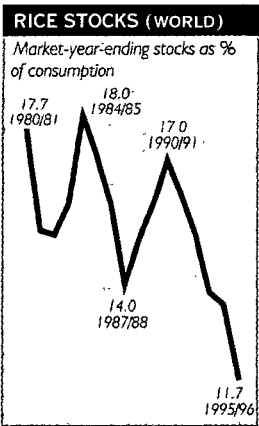
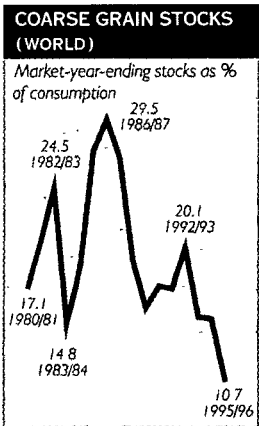
Two-thirds of world coarse grain consumption is for livestock and poultry feed; the remainder goes to food, seed, and industrial uses. Growth rates in world coarse grain consumption for all uses has been falling for decades, dropping from 2.8% a year during the 1960s, 2.6% during the 1970s, and 0.9% during the 1980s to 0.75% over the past 10 years. This decline has contributed to falling levels of world trade, which hit a record 107.9 million tons in 1980/81 and is expected to reach only 87 million tons in 1995/96.

Despite large imports by some countries, world demand is expected to fall sharply in the 1995/96 crop year because of higher world prices and slightly reduced imports by many countries. However feed demand shows little sign of weakening in the US. The USDA reported cattle and hogs on feed up 2% from a year earlier. This strong feed demand should keep prices high.

## GRAINS

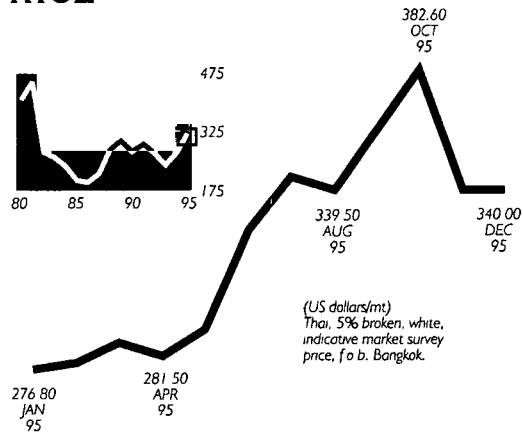
Grain prices rose an additional 7.1%, for the fifth consecutive quarterly increase.





Note: Data for 1994/95 and 1995/96 are estimated  
Source: USDA, FAS

## RICE



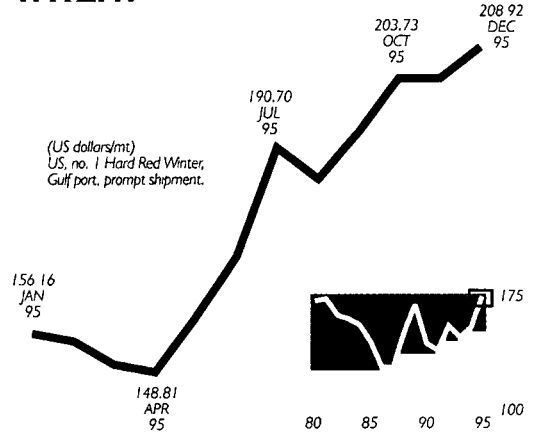
### PRICES SOAR NEARLY 20% IN 1995

Rice prices rose an average of 2% from the third to fourth quarter, pushing the calendar year average to 19.9% above the previous year's. Prices were beginning to weaken at the end of the quarter from the highs of \$382.6/ton in October to \$340/ton in December. Prices are projected to rise to an average \$330/ton for Thai 5% broken (indicative market price), up from \$320.8/ton during 1995. By 1997 prices are expected to slip along with other grain prices.

Rice imports are likely to fall from the record 1995 levels but to remain high by historical standards. The Philippines will need to import some 500,000 tons of rice to compensate for losses due to typhoon damage in 1995 and to prevent further price increases, which have led to domestic unrest. Brazil is expected to increase rice imports from 0.7 million tons in 1995 to 1 million tons in 1996 because of lower-than-expected area planted. China is expected to be another large importer, at roughly 1 million tons. So is Indonesia, although expected imports of 1.5 million tons in calendar 1996 will be well below 1995's 2.8 million tons.

Most major exporters have committed their exportable supplies from last year's crop, and exports will not be large until the next crop. Following a sharp rise in domestic prices last year, Myanmar announced that exports will be restricted until the new crop is evaluated. India remains as a major supplier of rice, with large contract commitments.

## WHEAT



### PRICES CONTINUE TO RISE

Prices for US hard red winter wheat f.o.b. the Gulf rose an average of 8.3% over the third quarter, pushing average prices for the year up 18.2% over 1994. We project a further increase of 4.5% for 1996 before prices move down in 1997. Next year's production will be critically important to 1996 price movements.

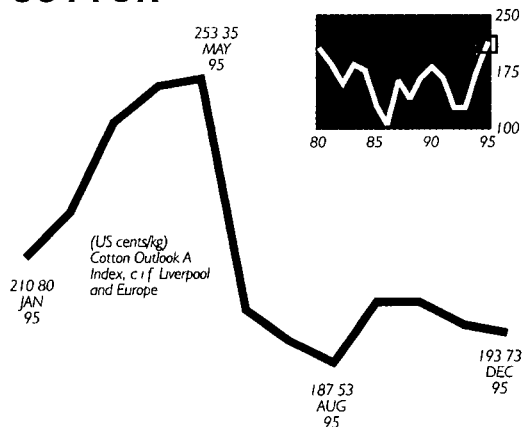
Southern Hemisphere production is expected to be about 2% higher than in the previous year. Australian production is expected to top off at 17 million tons, well above the drought-damaged 8.9 million tons of 1994/95. However, recent heavy rains, primarily in New South Wales, are expected to hurt wheat quality. Argentine production is likely to total only 8.5 million tons, down from 11.0 million tons in 1994/95, following a drought that delayed planting and recent heavy rains during harvest.

Prospects for the next Northern Hemisphere wheat crop appear good, with favorable soil moisture and planting conditions in China, India, Russia, and Ukraine; lower set-aside requirements in the EU; and favorable fall planting conditions in the midwestern US. However, dry conditions in the southern plains of the US are a cause for concern about the hard red winter wheat crop.

Import demand is strong, with large imports expected from Russia following a poor harvest. China is also expected to be a large importer, with 1995/96 imports estimated to reach 12 million tons.



COTTON



PRICES EASING AS 1995/96 CROP HARVEST IS EXPECTED TO FAR EXCEED CONSUMPTION

The cotton crop harvest in the Northern Hemisphere and early season conditions in the Southern Hemisphere indicate 1995/96 production of around 19.6 million tons. This improved production outlook reversed the September and October rise of prices, and the decline continued into early January. However, the medium staple cotton indicator price (Cotlook A index) during the fourth quarter averaged slightly higher than in the previous quarter and 12% higher than a year earlier.

The continued decline of US crop yield estimates is being more than offset by increased production prospects in other countries. China now expects to produce as much or slightly more than the 1994/95 crop of 4.43 million tons. Recent heavy purchases in the region of Xinjiang have indicated the possibility of production exceeding the 900,000 ton target for the season. The crop in Henan is expected to exceed last season's output by over 20%. The harvest in Jaingsu is approaching last season's production. China's output should therefore meet manufacturing requirements and other uses this season.

South Asian production is expected to increase substantially, Pakistan's by around 35% and India's about 4% compared with last season. Production in the African franc zone is forecast at 30% higher than the 1994/95 record output, and prospects are

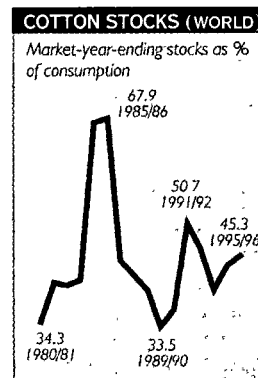
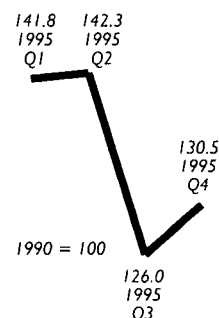
recovering well in South Africa, Sudan, Tanzania, and Zimbabwe. The Australian cotton-growing regions have received substantial rain in recent months, and the rain-grown cotton area is estimated at well above last season's rain-fed area.

The price decline was set off by widespread reluctance of cotton spinners to buy stocks beyond their needs for the following two to three months. An exception has been the forward trading of Southern Hemisphere production that will begin delivery in the second quarter of 1996. The resistance of spinners to raise stocks is in response to squeezed spinning margin due to high raw material costs relative to yarn prices. The margin squeeze is largely due to an adequate supply of coarse yarns offered at very competitive prices.

Prices for extra-long staple (ELS) cotton have avoided the downward pressure felt by the medium staples due to the relative scarcity of ELS cotton in the current market. With American Pima the only ELS cotton currently quoted in the North European market, its grade 3, 1-9/16 inch staple was offered at 184¢/lb, which was more than double the Cotlook A index average in December. At a Sudan tender in December, 15,000 bales of Barakat long staple cotton were sold; the grade 1B sold for 156¢/lb f.o.b.

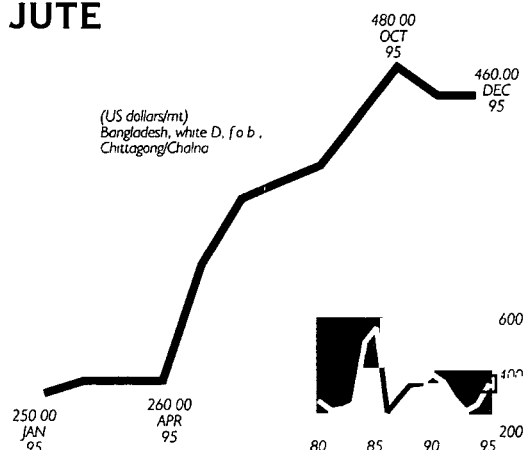
The International Textile Manufacturers Federation reported a sharp decline in total yarn production during the third quarter of 1995. Although yarn production fell in all major regions, output was little changed from the year earlier in Asia and Europe but significantly lower in the United States. Some US textile mills continued to lower manufacturing of certain products and extended the days of mill closings during the Thanksgiving and Christmas holidays in the fourth quarter. World yarn stocks declined during the third quarter, but they were still above the level of a year ago, particularly in Austria, Brazil, the Republic of Korea, Switzerland, and Taiwan (China). The European index for yarn orders during the quarter was below the level of a year earlier.

**Agricultural raw material prices rebounded after last quarter's steep decline.**



Note: Data for 1994/95 and 1995/96 are estimated  
Source: International Cotton Advisory Committee

## JUTE



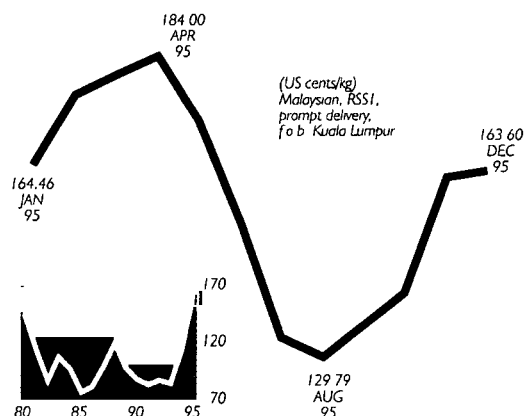
### BANGLADESH FIBER PRICES PEAK AS EXPORT DEMAND EASES IN OCTOBER

Lower production in 1995 pushed jute prices rapidly higher, constraining raw fiber marketing late in the year. Prices for Bangladesh white jute grade D averaged \$466.7/ton f.o.b. during the fourth quarter, some 82% higher than the first quarter's \$256.7/ton.

The world jute crop in 1995/96 is expected to be about 2.72 million tons, 11% less than the previous crop. All the larger producing countries contributed to the shortfall. India's crop is estimated at about 2% less than last season's, and Bangladesh's production is expected to fall about 19%. China's jute and kenaf production is estimated at 270,000 tons this season, 29% less than last season and 60% below production two years ago. Thailand has not announced an official estimate of its jute and kenaf crops, but the government has issued an import quota of 36,000 tons of long jute in anticipation of import needs. The industry has also requested a quota for jute cuttings.

The apparent need for jute imports in China and Thailand is encouraging to Bangladesh exporters, though purchasers held back during the first half of the season. Bangladesh exports during the first quarter of the season (July to September 1995) were 44,241 tons. Export activity is expected to recover during the last half of the season, as supplies are better known and prices are firmed.

## RUBBER



### RATIFICATION OF INRA III DOUBTFUL

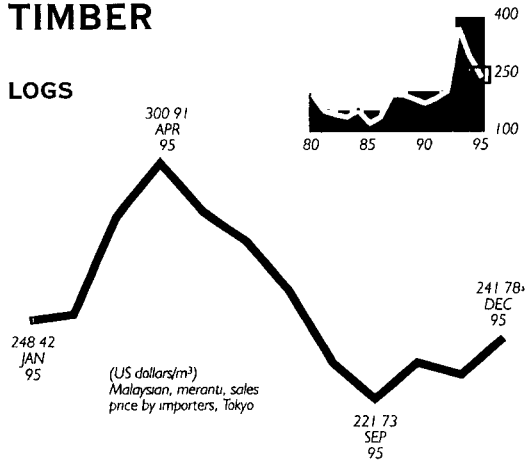
The recently negotiated Third International Natural Rubber Agreement (INRA III) has yet to be signed by a single member country. When INRA II expired as scheduled on December 28, 1995, without a successor agreement in place, all buffer stock activity was suspended. The absence of an agreement will have little immediate consequence for the rubber market because buffer stocks were drawn down to negligible levels during the recent boom in rubber prices. Nonetheless, without an agreement, the structure of the market is shrouded in uncertainty.

There is mixed support for the new agreement on all sides. About 75% of the world's natural rubber is produced in Indonesia, Malaysia, and Thailand. Because of the significant growth and diversification of those nations' economies, the effects of price volatility in natural rubber are less significant than they were a decade ago. Further, because the activities of the buffer manager are dictated by market price signals, INRA has not been a vehicle for supporting natural rubber price levels and has precluded cartel arrangements among producers.

Meanwhile, prices remain firm despite slow growth in the automobile industry in the US, the EU, and Japan. Reports of a 3.3% third-quarter decline in Malaysian production—including an 8.4% reduction in smallholder production—helped support prices.

## TIMBER

### LOGS



### LOW DEMAND MAINTAINS DOWNWARD PRESSURE ON PRICES

Prices for Malaysian logs in the Japanese market rebounded in December, but declined 1.5% between the last two quarters, mainly because of depressed demand for timber. Demand for tropical logs in Japan is estimated to have been 6% lower during the second half of 1995 than during the same period a year ago. Stock declines in the fall of 1995 helped prices to recover somewhat from their very low level of \$222 per cubic meter in September 1995, but there are no signs of a full recovery. Recovery of the Japanese timber market awaits reinvigoration of the stagnant housing construction market, the largest consumer of timber. Some participants in the home building market are predicting the beginning of a gradual recovery in early 1996. Industry analysts believe that Malaysian timber prices should begin a gradual recovery as more environmental measures are adopted.

Some analysts argue that declining tropical timber prices in Asian markets reflect not only low demand in Japan but also the increasing amount of timber available in Asian markets as a result of environmental concerns over Western forestry policies. This is because environmental concerns have resulted in lower imports of tropical timbers from Asia. In addition, Asian buyers are diversifying the sources of their log supply. Malaysia's market share has been declining in Japan and the Republic of Korea (the major Asian buyers),

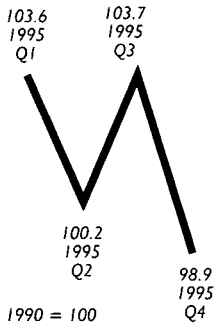
and the shares of New Zealand, Russia, Chile, and even some European exporters have been increasing. In Korea the share of Malaysian log exports dropped from 36% in 1990 to 8% in 1994, as Chile's share rose from 7% to 18% and New Zealand's from 14% to 31%. In Japan the share of Malaysian logs declined from 36% in 1988 to 21% in 1994. This increased competition is keeping Malaysian log prices from recovering.

Reports from Malaysia are for an expected increase in the government levy on timber extraction next year. Proceeds from the increase will help finance the country's 1.7 billion Malaysian dollars (M\$) fund for sustainable forest management. The levy was introduced in 1990 to assist in the management of logged-over forests. The current levy is between M\$60 and M\$120 per cubic meter for some 20 different species of hardwood.

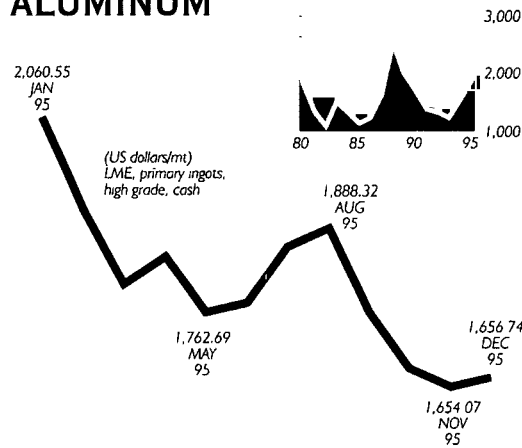
Plywood prices showed a significant decline throughout 1995, falling about 7% between the last two quarters of the year. Depressed demand for housing and general construction is behind much of the decline, though fierce competition between Indonesian and Malaysian plywood producers has contributed as well. There are plans for some cooperation between these two major plywood suppliers during 1996. At an early December meeting in Singapore, Indonesian and Malaysian plywood groups agreed to control exports of plywood to China and the Republic of Korea. Plywood exports to the two countries account for about 20% of plywood exports from Indonesia and Malaysia. Both exporters have increased their share in the Japanese market, as high production costs and difficulties in securing logs have slowed Japanese plywood production.

Timber market conditions remain depressed in Europe. The UK construction industry is still in a slump, and timber market conditions in France are also depressed. Weak market conditions were mainly responsible for the 4.8% decline in Cameroonian log prices during the last quarter of 1995, despite new taxes on timber in Cameroon.

Prices declined 4.6% following sharp declines in aluminum, copper, and tin.



ALUMINUM



STAGNANT CONSUMPTION LEADS TO PRICE DECLINES

Aluminum prices dipped 10.5% between the third and fourth quarters of 1995, responding to stagnant consumption of aluminum worldwide. Some analysts estimate that consumption in Western Europe in the fourth quarter of 1995 was 10% lower than during the same period a year ago. Weakening construction markets in Europe, particularly in Germany, played a part. So did sluggish consumption in Asia brought on by recession in the construction sectors in Japan, the Republic of Korea, and Taiwan (China). China's ability to import is being constrained by continuing tight credit conditions, and US aluminum consumption has been hurt by weakening industrial production and housing markets. Western world consumption was down 1.1% in the fourth quarter of 1995 compared with the fourth quarter of 1994.

Aluminum production increased slightly during the fourth quarter compared with a year ago. Total production increased 2.4% in the fourth quarter of 1995 compared with the same quarter of 1994. Net exports from the former Soviet states have been declining as local demand and domestic operating costs have risen. Compared with 1994, net exports declined 6.1% during 1995. Net exports from the region are expected to decline into 1996.

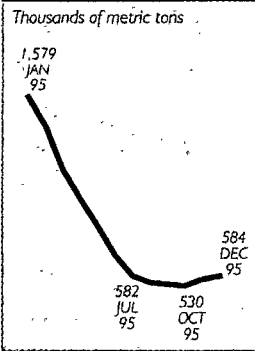
Aluminum stocks at the London Metal Exchange (LME) rose from 531,000 tons in September to 584,000 tons by December—

still only half their level in March. Primary stocks held by producers showed a small decline during the fourth quarter.

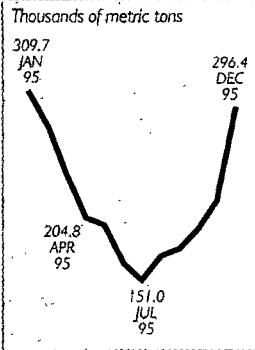
Despite the recent price declines, most analysts predict that aluminum prices will rise, but they differ about when and how much. There is a significant amount of idle capacity that is expected to start up again in 1996, which could offset increases in consumption. Helping to lift demand are lower interest rates in the US and Europe and lower import duties and an easing of credit in China. Another factor that could limit rises in aluminum prices is the fact that the prices of some competing materials, such as plastics, have fallen. Thus, there is a good possibility that prices in 1996 will not show much of an increase from their December 1995 levels. Prices have little room for further declines either since that would make it less profitable for aluminum companies to restart plants with idle capacity. Also, declines in net exports from the former Soviet states will provide support against further price declines. In fact, domestic demand in Russia in 1995 seems to be 400,000 tons above its 1994 level. As a result, domestic prices in Russia have been increasing significantly, thus limiting net exports.

While we expect the market to be more or less balanced during 1996 and 1997, the aluminum supply and demand situation should tighten significantly after 1997. Even if capacity utilization increases by 1998, supply may not be sufficient to meet projected consumption. The key factor in this scenario is the extent of the economic recovery in the US, Japan, and Western Europe, as well as the recovery in aluminum consumption in Russia and China. Supply growth will be severely constrained by the low investments in new smelting capacity in Western economies. Given the length of time it takes to invest in new smelters, there is very little production that could come from new smelters for the next two to three years. Several analysts do not predict strong price increases before 1998.

ALUMINUM STOCKS (LME)

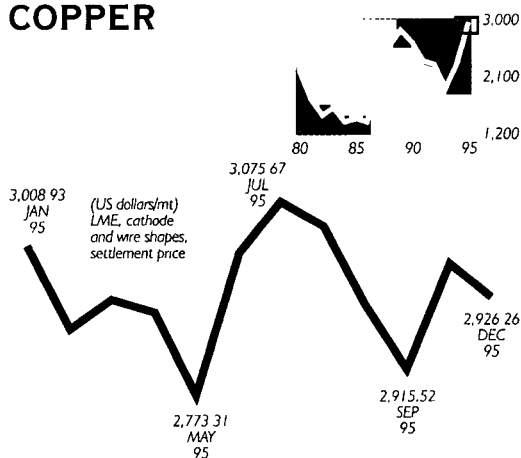


COPPER STOCKS (LME)



Source: Metal Bulletin

## COPPER



## MARKET REMAINS IN BACKWARDATION

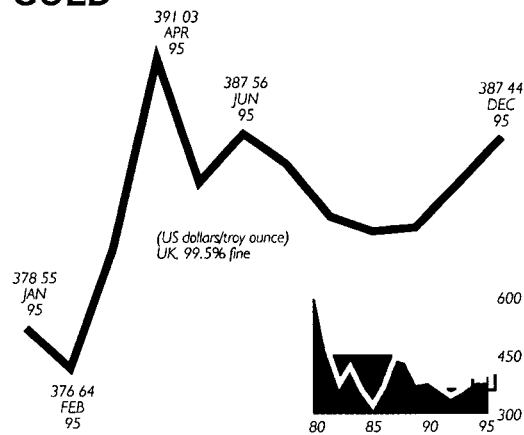
The futures market in New York remains in backwardation in anticipation of increasing supplies from new projects worldwide. Copper contracts for February 1997 delivery are selling at a 10¢/lb discount to February 1996, generating pressure to deliver inventories quickly to the market and making stockholding expensive.

Demand in the US eased somewhat from 1994, and demand from North America is expected to decline almost 5% for 1995. This slowdown is expected to be almost exactly offset by an increase in European demand for the year, despite disruptions caused by the public sector strike in France. The rail disruptions caused by the strike temporarily closed Alcatel's wirerod plant at Chany.

Demand in Asia has weakened as well. There are no reports of Western cathode imports into China in recent months, and sales of raw materials have slowed. Much of domestic demand has been met by sales from China's Strategic Reserve Board. The possibility that some portion of the metal might find its way to LME warehouses in Singapore fueled earlier sell-offs; however, analysts report only modest exports of Western cathode from China during the fourth quarter.

With ongoing projects likely to put nearly 2.5 million tons (about 27% of current production) of new copper supplies on the market during the next four years, market participants are trying to guess the timing of the new supplies.

## GOLD



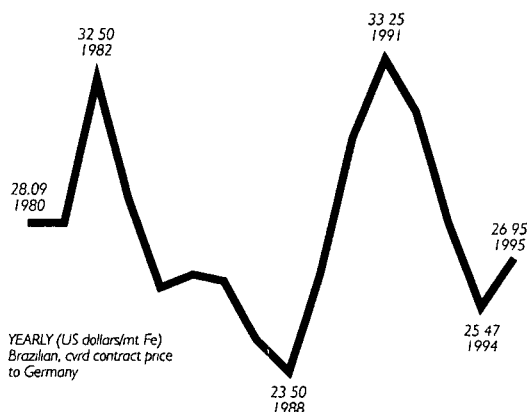
## PRICES BREAK AWAY

Gold prices moved slightly higher throughout the quarter before rising sharply in late December and early January. The average annual price for 1995 was \$384/troy ounce (toz), the same as for 1994. Since December prices have risen above \$400/toz on a combination of speculative factors and some tightening of the fundamentals.

The rally in gold prices is described as driven by fears about political unrest in Russia, concern about the budget impasse in Washington, and fears that equity prices in the US are too high to hold, which have caused investors to seek security in gold. Russian gold production was also down about 12% in 1995, and strong demand in India, China, Thailand, and the Middle East helped push gold demand above mine production in 1995.

A surge in the gold lease rate (the rate central banks charge bullion traders to lease gold) in November and December caught the market short of bullion, and the spot price rose briefly above futures prices. This changed market perceptions and induced producers who had been selling forward to hold off selling. Sellers appear willing to wait to see how high prices go before beginning to sell aggressively. Since most other commodity markets have had large price increases in the past two years, while gold has languished, some analysts expect speculators to focus on gold. Hedge funds and commodity funds are expected to enter the market as prices rise, making further price increases more likely.

## IRON ORE



### LOW DEMAND FOR IRON ORE, FALLING STEEL PRICES

Conditions in steel markets across the globe deteriorated further in the fourth quarter on continuous destocking, excess supply, and low demand. Slow growth in demand for steel has affected demand for pig iron as mills cut production to cope with excess supply and low steel prices. Steel prices had risen quickly during the first half of 1995, but demand weakened in the second half, leaving many end-users and service centers overstocked. In the last two quarters, many mills in Brazil, Western Europe, and the US have tried to protect home-market prices by exporting excess supplies, a practice that exacerbated price falls in the global market.

Contract negotiations have begun for 1996 iron ore deliveries, although there have been no agreements since the first round of talks in Japan on December 18. This year's negotiations are not expected to be concluded quickly, since the bleak outlook for steel prices makes mills reluctant to seek an early price settlement. Falling profit margins have put pressure on steel producers to avoid increases in production costs.

In the last quarter low pig iron production was concentrated in the main iron ore importing regions. As of November pig iron production were 6.6% and 5.9% below year-ago levels for the EU and Japan, respectively. Iron ore demand was high only in Asia (excluding Japan). Both China and Taiwan (China) increased their iron ore imports.

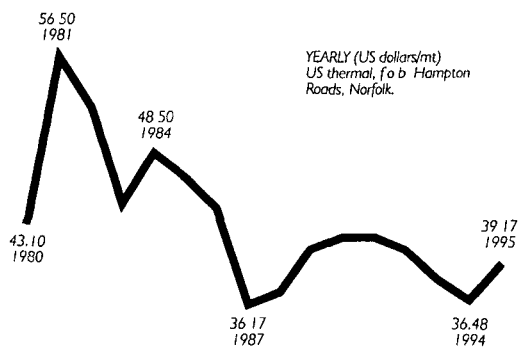
In Japan demand and prices for sheet products continue to slide due to a sharp drop in Japanese automotive exports. Demand continues to deteriorate as automotive and engineering producers shift production abroad, and the export market provides no relief. Moreover, despite recent government fiscal packages that boosted construction activity, private construction contracts remain weak. Housing starts continue to fall, and they were 2.3% lower in October year-on-year.

The North American market was the strongest, although trading was slow in both US long and sheet products in November and December. Prices remained stable except for beams, which increased further. In the US a still-weak construction industry is taking longer to reduce inventories than expected. Export opportunities in Asia and Europe are weakening due to low export prices and high supplies in the region. Imports to the US are limited by the weak dollar, antidumping duties, and low domestic prices.

European exports to Asia were increased to cope with oversupply in the domestic market, aided by high inventories, cheap imports, and falling third-country exports. In October European sheet prices were higher than in the US and Asia, encouraging imports and putting pressure on European prices. Producers announced some production cuts to maintain price levels. Mills are determined to keep sheet prices at least stable since annual contracts are being negotiated. Russian offers of all long products are down because the stable ruble since mid-year and continuing high inflation make domestic sales more attractive.

Prices for all steel products in Asia have been hit hard by a fall-off in demand and by oversupply. The Chinese market is weaker because of continued government restrictions on construction projects and credit availability. Also, duty-free steel import licenses will be restricted after January 1, and export rebates will be reduced from 14% to 9%.

## COAL



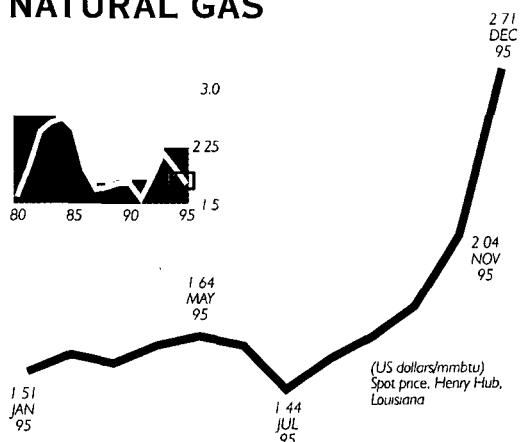
## PRICES EXPECTED TO RISE MODESTLY

Coal prices in the US weakened in the fourth quarter despite cold weather, low inventories, and reportedly good production discipline in Appalachia. Although the weather has been colder than normal, there has been no severe cold snap to push prices sharply higher. Part of the reason for the low stocks is deregulation in the electric utility industry, which has prodded companies to operate on reduced inventories and to rely more on spot purchases. This change in firm behavior will intensify as deregulation progresses, increasing price volatility during periods of extreme tightness or surplus.

Electricity deregulation has helped prompt the New York Mercantile Exchange to establish a working group to evaluate the viability of a coal futures market (it is also preparing to launch an electricity futures contract on the west coast).

International coal markets are relatively tight, but early indications are for only small price increases in 1996 contract negotiations. US coal suppliers are starting to settle steam coal contracts with European buyers at rollover pricing, while Colombian producers appear to be receiving some increase. Negotiations on coking coal have begun between producers and Japanese steel mills, with the Japanese hoping to pay only a dollar or so more for coal this year, following a \$5.65/ton increase in 1995. Prime Australian coking coal prices are likely to rise at least \$2/ton.

## NATURAL GAS



## COLD WEATHER CAUSES SURGE IN US GAS PRICES

US natural gas prices soared in the fourth quarter because of high demand, transportation constraints, and relatively low inventories. December prices averaged \$2.71 per million Btu (mmbtu), nearly double July levels. The New York Mercantile Exchange (NYMEX) January contract expired at \$3.45 on December 21 after peaking at \$3.72 the same day. Prices are expected to fall sharply at the end of the cold winter weather, which is reflected by strong backwardation in futures markets. At the end of 1995 the price of gas was \$2.62/mmbtu for February delivery and \$1.80 for May delivery.

Cold weather in the central and eastern US led to strong growth in demand in residential and commercial markets in the fourth quarter. Demand had already been strong in 1995 in the industrial and electric utility sectors, which tended to raise peak-period consumption. Inadequate pipeline capacity to transport required volumes to eastern markets led to the largest December draw on inventories since 1989, and year-end inventories were estimated at more than 20% below end-1994 levels.

Demand pressures were partly tempered by the switching of more than 1 billion cubic feet (Bcf) of gas to residual fuel oil and, to a lesser extent, to distillate fuel oil (annual US consumption is more than 20 Bcf). This leaves little fuel-switching capability on the east coast if cold weather persists through the remainder of the winter, although other

Petroleum prices rose 2.8% and natural gas prices were up sharply because of cold winter temperatures

regions of the country still have significant fuel-switching capability. Also helping to alleviate some of the supply pressure are the greater availability of hydropower in the west due to wet weather and the return of several nuclear power units in the northeast.

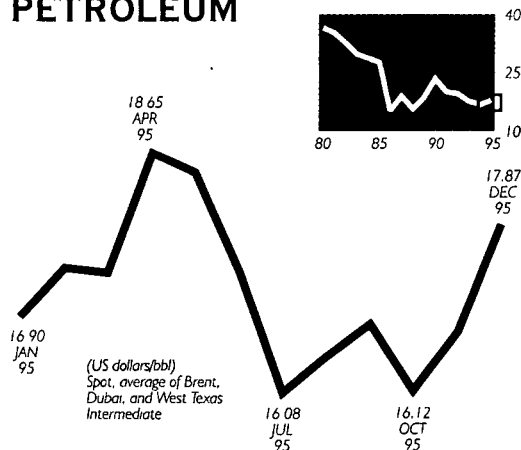
With low inventories heading into 1996, there is a risk of further deliverability constraints in the eastern US should cold weather persist. Normal weather in the first quarter would run inventories down to the end-winter lows of 1993 and 1994. Colder-than-normal temperatures would put added pressures on deliverability and strengthen prices significantly. Low temperatures could also provide some boost to prices during the rest of the year, as operators rebuild depleted inventories.

Gas prices are expected to dip below \$1.80/mmbtu this spring and summer. Assuming a normal winter, the larger-than-expected storage injection requirements at winter's end should result in a moderate upward revision to the price forecast for 1996. A severe winter could push gas prices close to \$2.00/mmbtu for the year.

There is little room for Canadian gas prices to rise over the year because of supply bottlenecks and surplus productive capacity. Pipeline capacity constraints and intense gas-on-gas competition in western Canada will keep producer prices at or below \$1.00/mmbtu, well below US prices.

European prices changed little in the fourth quarter and are not expected to change materially in 1996. Demand rose an estimated 6% during 1995 and is expected to record slightly higher growth this year. Demand in Eastern Europe is expected to show a relatively strong gain as well. Supplies of natural gas increased about equally between domestic production and imports. In 1996, however, imports are expected to increase twice as fast as domestic production. Increases of some 20% are expected from Algeria and Norway and about 6% from the countries of the former Soviet Union.

## PETROLEUM



### OIL PRICES EXPECTED TO WEAKEN

Oil prices rose sharply during the fourth quarter in response to cold weather in the Northern Hemisphere and low stocks. Production shortfalls and refinery problems also contributed to the increase. Crude oil prices rose more than 15% from mid-October to the end of the year, reflecting the trend in recent years for refiners to reduce stock levels to enhance profitability—referred to as just-in-time inventories. Companies now prefer to rely on the spot market to meet any surge in demand (such as during the recent spell of cold weather) rather than to incur inventory losses should demand drop unexpectedly (because of mild winter weather, for example).

For the near term, prices are expected to decline once refiners feel comfortable with their stock positions for the duration of the winter. Only further bouts of cold weather and unforeseen supply shortfalls would give prices a temporary boost.

OPEC crude oil production continued to edge higher in the fourth quarter, averaging 25.67 million barrels per day (mb/d). Much of the 0.12 mb/d increase was in Nigeria and Venezuela (table 2). Total OPEC crude production stood at 1.15 mb/d above the organization's self-imposed quota of 24.52 mb/d, which has remained fixed since September 1993. All members were above quota during the quarter, including Saudi Arabia and Kuwait when their shares of Neutral Zone



production are added in. The largest over-producer was Venezuela, at 0.35 mb/d above quota, followed by Nigeria at 0.15 mb/d above quota, Saudi Arabia at 0.14 mb/d, and Iran at 0.09 mb/d. OPEC met in Vienna in November and agreed to roll over quotas until June 30, 1996. OPEC last set quotas in late 1994, for the full year 1995.

Non-OPEC oil production rose 0.6 mb/d in the fourth quarter, with the bulk of the increase coming from the North Sea's start-up of new fields and return from maintenance-related shutdowns in the third quarter (table 3). There were increases in output in most other regions as well, including a

reported 0.14 mb/d increase for the countries of the former Soviet Union (FSU). Canada, China, Egypt, and Malaysia also had notable production increases.

Partly offsetting these gains was the relatively large decline in Latin America, due mainly to the effects of two hurricanes that struck Mexico in October. Mexican production fell nearly 1 mb/d, or 30%, in October but rebounded in November and returned to previous levels in December. Production in Colombia declined slightly during the quarter because of pipeline sabotage, and output in Brazil suffered because of pipeline and weather-related problems.

World oil demand rose more than 2%, spurred partly by cold weather. OECD oil demand is estimated to have risen 1.0 mb/d, or 2.5%, with most of the growth occurring in North America and Europe, where weather has been colder than normal. Demand in both regions is estimated to have risen 3%, with relatively strong growth in heating oil. Weather-induced fuel switching by US utilities likely contributed to an increase in heavy oil use.

Oil demand is estimated to have risen 3.5%, or 0.8 mb/d, in the developing countries outside the FSU and Eastern Europe during the fourth quarter (table 4). The strongest growth continues to be in Asia. In the FSU apparent oil demand is estimated at 0.1 mb/d—some 2% lower—continuing a moderation in the downward trend this year. Oil demand in Eastern Europe bottomed out around 1993 and is slowly moving upward.

Stocks of crude and products in the US remain well below recent years' levels. Cold weather in December contributed to a large decline in crude and distillate stocks, while gasoline inventories moved higher. Crude oil inventories are in a more comfortable position in the other regions, as are product stocks in Europe. However, distillate stocks in Japan have been tracking below last year's levels due partly to strong demand induced by the cold weather.

**TABLE 2. OPEC CRUDE OIL PRODUCTION AND QUOTAS**

*Millions of barrels per day*

	1993	1994	3Q95	4Q95	Quotas, 4Q93-2Q96
Algeria	0.74	0.75	0.76	0.79	0.750
Gabon	0.30	0.32	0.35	0.35	0.287
Indonesia	1.34	1.32	1.34	1.34	1.330
Iran	3.65	3.61	3.65	3.69	3.600
Iraq	0.48	0.53	0.55	0.55	0.400
Kuwait	1.69	1.84	1.84	1.84	2.000 <sup>a</sup>
Libya	1.37	1.38	1.41	1.40	1.390
Neutral Zone	0.36	0.39	0.44	0.43	
Nigeria	1.91	1.90	1.93	2.01	1.865
Qatar	0.42	0.41	0.45	0.46	0.378
Saudi Arabia	7.96	7.90	8.01	7.92	8.000 <sup>a</sup>
UAE	2.17	2.22	2.19	2.17	2.161
Venezuela	2.31	2.44	2.64	2.71	2.359
Total crude	24.70	24.99	25.55	25.67	14.520
NGLs	2.25	2.38	2.41	2.48	
Total OPEC	26.95	27.37	27.97	28.15	

a. Quota includes share of Neutral Zone  
Source: IEA, OPECNA

**TABLE 3. NON-OPEC OIL SUPPLY**

*Millions of barrels per day*

	1993	1994	3Q95	4Q95	Change, 3Q95 to 4Q95
United States	8.82	8.64	8.50	8.53	0.03
Canada	2.18	2.28	2.37	2.46	0.09
United Kingdom	2.14	2.71	2.76	2.96	0.20
Norway	2.38	2.69	2.83	3.20	0.37
Other OECD	1.24	1.32	1.29	1.32	0.03
Latin America	5.77	5.94	6.32	5.90	-0.42
Africa	2.05	2.06	2.25	2.30	0.05
Middle East	1.63	1.79	1.92	1.93	0.01
China	2.91	2.84	3.00	3.06	0.06
Other Asia	1.78	1.94	2.08	2.13	0.05
FSU	7.92	7.16	7.09	7.23	0.14
Eastern Europe	0.28	0.28	0.28	0.27	-0.01
Processing gain	1.39	1.43	1.48	1.48	0.00
Total non-OPEC	40.49	41.08	42.17	42.77	0.60

Note: Includes natural gas liquids (NGLs), nonconventional, and other supply sources  
Source: IEA

World oil demand averaged 70.0 mb/d for 1995, an increase of 1.4 mb/d, or 2%, over 1994 (table 5). OPEC producers captured only 0.4 mb/d of the increase, while non-OPEC production grew 1.0 mb/d. The demand for OPEC crude has been sluggish since 1992 because of relatively large increases in non-OPEC supplies. Between 1992 and 1995 world oil demand outside the FSU grew nearly 5 mb/d, or about 2.5% a year. In 1992 OPEC's output of 24.4 mb/d was near its present quota, and since then OPEC crude production has risen only 1.0 mb/d, or 4%. Meanwhile, oil production from non-OPEC countries outside the FSU rose 3.4 mb/d, or more than 10% over 1992–95, capturing much of the growth in global oil demand. The remaining supplies were made up by increased exports from the FSU (up 0.6 mb/d), despite the 20% decline in production over the period.

Significant advances in technology and corporate rationalization over the past decade have greatly reduced the costs to develop oil reserves around the world. When oil prices collapsed in 1986, companies were forced to reduce costs and improve their exploration and development capabilities. Among numerous cost-saving innovations, two of the most important technical developments have been 3-D computer seismic drilling and horizontal drilling.

In addition, to attract foreign companies to explore and develop oil and natural gas resources, many countries have improved their fiscal terms and conditions. As more countries open their borders to foreign companies—including some OPEC countries—governments are pushed to further improve their terms and conditions to compete successfully for the capital and services of foreign companies. This competition has led to lower costs of development. Also, the large physical infrastructure already in place in the North Sea allows marginal fields to be tied in very quickly and cheaply through extended-reach drilling. And changes in government regulations, as in the UK, have shortened once-long lead times for development.

North Sea production, in particular, has felt the effects of these changes. Production from the UK and Norwegian sectors combined rose 1.5 mb/d, or 35%, over the past three years to 5.7 mb/d. In 1996 output is projected to increase 0.65 mb/d, or 11%, to 6.4 mb/d. Further increases are expected throughout the decade.

Non-OPEC supplies are projected to continue to increase in the coming years, meaning that OPEC will at best capture only a portion of the increase in global oil demand. In fact, projections for 1996 suggest a slight decrease in demand for OPEC crude. World oil demand is projected to increase about 1.5 mb/d in 1996, while increases in non-OPEC

TABLE 4. OIL CONSUMPTION

	Millions of barrels per day				Percentage change			
	OECD	FSU and Eastern Europe	Developing countries	Total	OECD	FSU and Eastern Europe	Developing countries	Total
1990	38.1	10.1	18.3	66.4	0.3	-5.0	4.3	0.5
1991	38.2	9.6	19.1	66.9	0.3	-4.8	4.5	0.7
1992	38.9	8.4	20.3	67.5	1.8	-12.5	6.3	1.0
1993	39.1	7.0	21.6	67.7	0.5	-16.7	6.4	0.2
1994	40.0	6.2	22.5	68.6	2.3	-12.1	4.2	1.3
1995	40.4	6.1	23.5	70.0	1.1	-0.8	4.4	2.0
1Q94	40.7	6.7	22.3	69.7	2.7	-13.0	5.0	1.8
2Q94	38.7	5.8	22.1	66.6	2.9	-17.1	3.8	1.1
3Q94	39.7	5.9	22.3	67.9	2.9	-7.8	4.7	2.4
4Q94	40.7	6.3	23.3	70.3	0.9	-10.0	5.2	1.0
1Q95	41.0	6.6	23.4	71.0	0.6	-1.5	4.9	1.9
2Q95	39.2	5.8	23.3	68.3	1.1	0.0	5.5	2.6
3Q95	39.7	5.8	23.3	68.8	-0.1	-1.7	4.5	1.3
4Q95	41.7	6.2	24.1	72.0	2.5	-1.6	3.3	2.4

Source: IEA, World Bank.

supplies are projected to approach 2.0 mb/d. The largest gains are again expected in the North Sea. In the Norwegian sector production is projected to increase 0.37 mb/d from the start-up of the Heidrun and Troll West fields. In the UK sector production is expected to increase 0.34 mb/d with the start-up of several moderate and marginal fields. Increases are also expected in Australia (0.22 mb/d), Mexico and Angola (both topping 0.1 mb/d), and Brazil and China (both at 0.08 mb/d).

Even if the overall balance turns out to be somewhat more favorable for OPEC, the organization will see little growth in demand for its crude in 1996. This sluggish trend in OPEC output could continue for some years, with non-OPEC production projected to increase steadily in the foreseeable future. Although the further out one looks, the more difficult it is to predict precisely where the supplies will be coming from, it is extremely profitable to explore for and develop oil at current prices, and costs have been falling for several years. Thus it is highly likely that production outside OPEC will continue to increase well into the future.

World oil demand is projected to increase some 2% or less a year, meaning that there is unlikely to be a large demand surge that

could quickly benefit OPEC producers. Consequently, real oil prices are not expected to increase over the longer term. Pressures will generally be downward over the next several years, as the costs of production fall and new technologies are developed. More important, the costs of producing synthetic and extra-heavy oils continue to fall with new technologies and innovations. These developments are lowering the potential ceiling on oil prices and possibly adding to the downward pressures on prices (see Shane S. Streifel, *Review and Outlook for the World Oil Market*, World Bank Discussion Paper 301, 1995).

In the near term prices could be severely weakened by the return to market of crude oil from Iraq. With OPEC production growing very slowly, other OPEC members will have to accommodate the reentry of Iraqi exports (whenever this occurs) to prevent a collapse in prices. If the accommodation is inadequate or there is dispute over appropriate market shares, prices could plummet. Most analysts believe that the resumption of Iraqi exports is a long way off, but when it comes the embargo could end abruptly. That would push prices well below those projected here, in whatever year it happens.

**TABLE 5. WORLD PETROLEUM DEMAND AND SUPPLY**

Millions of barrels per day

	1993	1994	1Q95	2Q95	3Q95	4Q95	1995	1Q96	2Q96	3Q96	4Q96	1996
<i>Demand</i>												
OECD	39.1	40.0	41.0	39.2	39.8	41.7	40.4	41.7	39.8	40.5	41.8	40.9
FSU	5.7	4.8	5.1	4.4	4.5	4.8	4.6	5.1	4.5	4.3	4.7	4.6
Other	22.9	23.8	24.9	24.7	24.5	25.5	25.0	25.8	25.6	25.6	26.6	26.0
Total	67.7	68.6	71.0	68.3	68.8	72.0	70.0	72.6	69.9	70.4	73.1	71.5
<i>Supply</i>												
OECD	16.8	17.6	18.1	17.7	17.8	18.5	18.0	19.1	18.6	18.8	19.7	19.1
FSU	7.9	7.2	7.1	7.1	7.1	7.2	7.1	7.2	7.1	7.0	7.1	7.1
Other <sup>a</sup>	15.8	16.3	17.0	16.9	17.2	17.1	17.1	17.6	17.8	18.1	18.3	17.9
OPEC <sup>b</sup>	26.9	27.3	27.5	27.6	28.0	28.1	27.8	28.0	28.0	28.0	28.0	28.0
Total	67.4	68.4	69.7	69.3	70.1	70.9	70.0	71.9	71.5	71.9	73.1	72.1
<i>Stock change and miscellaneous</i>												
OECD	0.2	0.2	-1.1	0.6	0.7	-0.7	-0.1					
Floating/transit	0.1	0.1	-0.3	0.1	0.5	0.1	0.0					
Other/miscellaneous	-0.6	-0.3	0.1	0.3	0.2	-0.3	0.1					
Total	-0.3	-0.2	-1.3	1.0	1.4	-1.0	0.0					

Note: Includes natural gas liquids (NGLs), nonconventional, and other supply sources

a: Includes processing gains (1.5 mb/d in 1993).

b: Includes NGLs (2.2 mb/d in 1993).

Source: IEA, World Bank

## FERTILIZERS

Prices rose an additional 4.8% after sharp increases earlier in 1995. Tight supplies suggest further increases are possible.

## FERTILIZERS

### PRICES EXPECTED TO STAY FIRM ON STRONG DEMAND

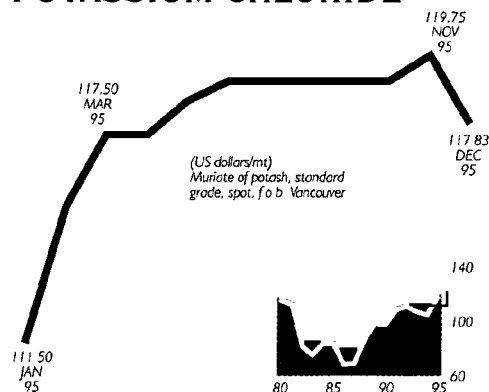
Fertilizer prices are expected to stay strong for another year because of high crop prices and limited surplus production capacity. Demand for fertilizers should increase at least 5% in the US and as much as 3% worldwide in the coming year. In the US the maize set-aside has been lowered from 7.5% in 1995/96 to zero in 1996/97. High maize prices and the return to production of some land that was flooded in the US during 1995 should increase US demand significantly. Maize plantings in the US are expected to rise 14% in 1996/97.

High world grain prices are also expected to increase fertilizer demand in developing countries in 1996. The decline in fertilizer consumption in the former Soviet Union and Eastern Europe may also be ending after the sharp fall over the past several years. These factors should keep fertilizer prices high for the next season. However, new capacity being developed in a number of countries will bring down prices over the medium term.

Total world fertilizer demand increased an estimated 2.1% in 1995/96, the first increase since 1988. This increase apparently marks an end to the major decline in demand that began with sharply lower fertilizer use in the former Soviet states and Eastern Europe and the more moderate reductions in Western Europe and other industrial countries. Before the recent rise, fertilizer use had fallen 17.4% from its peak in 1988/89 to the low in 1994/95.

The World Bank/FAO/UNIDO/Industry Fertilizer Working Group just published *World and Regional Supply-Demand Balances for Nitrogen, Phosphate, and Potash, 1993/94-1999/2000*. This annual study reviews fertilizer nutrient supply and demand balances for the past two years and provides forecasts over the next five years. (It is available as World Bank Technical Paper 309; to order, call 202-473-1155 and ask for ISSN 1014-9848.)

## POTASSIUM CHLORIDE



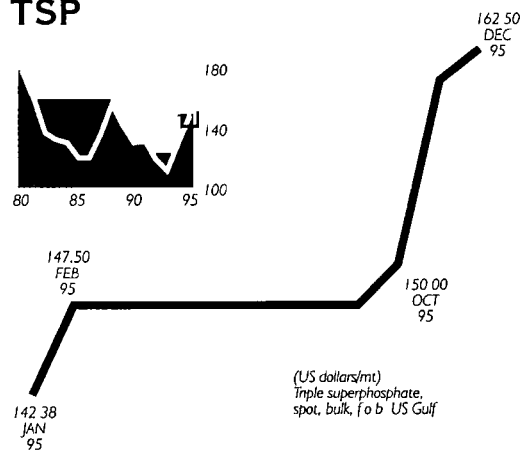
### PRICES REMAIN STAGNANT

Potassium chloride prices remained stable during most of the fourth quarter but retreated slightly in December. Prices averaged \$118.9/ton in the fourth quarter and \$119.0/ton in the third quarter. For the year prices averaged \$117.8/ton, up from \$105.7/ton in 1994 and \$107.4/ton in 1993. On a monthly basis potassium chloride prices increased from \$103.5/ton during March to November 1994 to \$119.8 in November 1995, an increase of approximately 16%.

Potash prices rose less than other fertilizer prices during the past year because production capacity and inventories were adequate. However, increased US maize plantings of as much as 14% are expected in 1996, which along with high grain prices and strong international demand should lead to slightly higher prices in 1996. Negotiations for 1996 contract prices have begun, with suppliers seeking higher prices, but buyers have been slow to respond.

Brazil has been a large importer of potash in recent years as it tries to balance fertilizer application rates. However, financial constraints have weakened Brazilian demand in recent months. This has taken most of the strength out of the market and weakened producers' bargaining position. Producers view this as a brief pause in demand rather than a change of import policy.

## TSP



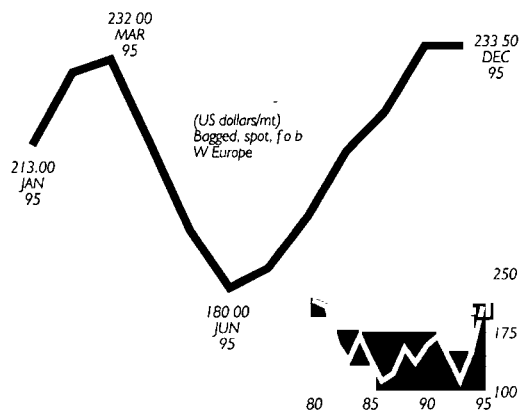
### PRICES FINISH THE YEAR STRONG TO CAP A 13% RISE IN 1995

TSP prices rose sharply in November and December and averaged \$162.5/ton in December. For the calendar year prices averaged \$149.6/ton, up from \$132.1 in 1994 and \$106.8 in 1993. On a monthly basis the increase was even greater, rising from a low of \$105.1 in July 1993 to a high of \$162.5 in December 1995, for an increase of 55%. Phosphate rock prices have been strong, with producers talking of 10–15% increases for 1996 contract prices. We project prices to rise to \$39/ton for 1996, from \$35/ton in 1995.

The global response to high world grain prices and current low stocks is expected to boost fertilizer demand in 1996/97 and lead to further price increases. Producers are operating at near capacity, with North American producers reported operating at 83% of capacity, the highest rate in 20 years. New capacity is being planned by many companies but is not expected to affect 1996/97 supplies significantly.

China was a major factor behind 1995's fertilizer imports and price increases. However, a major government effort to increase domestic fertilizer production may meet much of China's future needs. Domestic fertilizer production reportedly increased 23% in 1995, and plans call for an additional 50% increase by 2000. China will need to increase phosphate use by nearly 25% by the year 2000 to reach its goal of balancing its fertilizer application ratio.

## UREA



### PRICES END 1995 AT NEW HIGHS

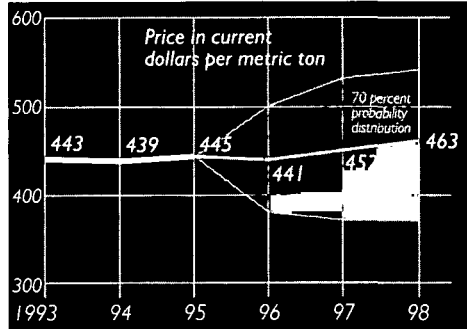
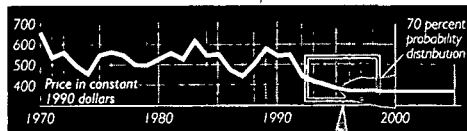
Prices increased to an estimated \$233.5/ton in December to surpass the highs of spring and early summer. Urea prices averaged \$211.5/ton for the year, well above the \$147.9/ton in 1994 and \$106.8/ton in 1993. The monthly low occurred in September 1993 at \$100/ton, with prices subsequently rising 134% through December 1995. Such large increases reflect strong demand and reductions in production capacity following extremely low prices in 1993. Fall applications of nitrogen fertilizers were also very heavy, strengthening prices at the end of the year.

Reversing the normal price situation, urea prices were 10–20% higher than ammonia prices during the fourth quarter because of strong demand for urea from China, India, and other developing countries. China, the largest importer, imported roughly 5 million tons of urea in 1995. Urea has been the nitrogen fertilizer of choice for many developing countries because of its ease of handling and application. This price differential led many US wheat farmers to switch to ammonia for fall applications. The US and other large producers can benefit from the uncharacteristically low ammonia prices because they have the necessary application and storage equipment. The oversupply in the ammonia market was reduced, but ammonia supplies are still considered adequate. Russia has been a large exporter of ammonia and has priced its exports aggressively to keep exports high.

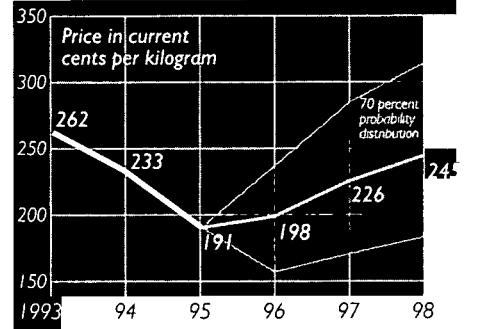
# COMMODITY PRICE OUTLOOK

## FOODS

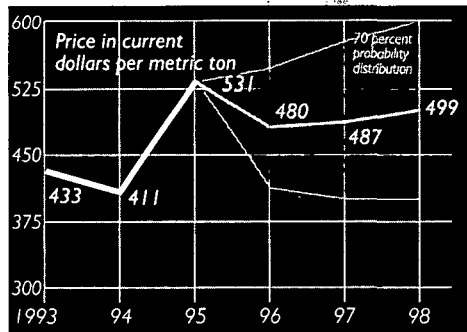
**BANANAS** *Stable real prices expected in the near term*



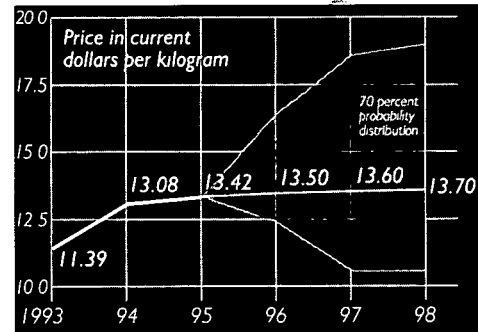
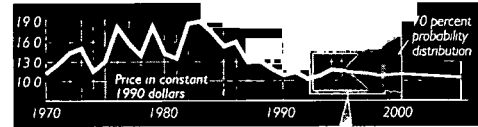
**BEEF** *Lower prices likely*



**CITRUS (ORANGES)** *Prices settling toward trend*

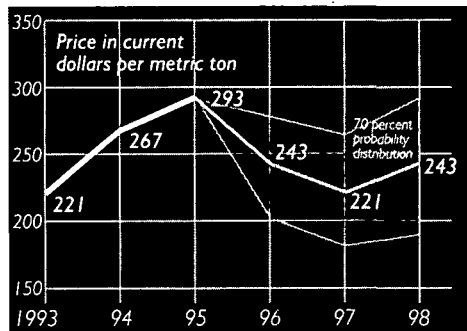
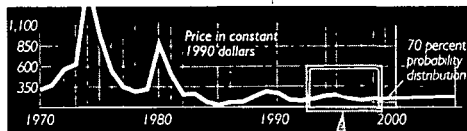


**SHRIMP** *Higher prices anticipated*

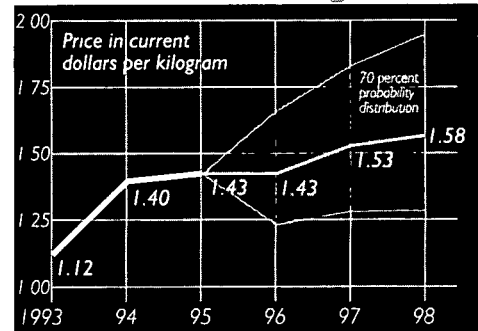
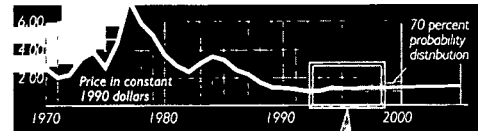


## BEVERAGES

**SUGAR** *Prices drift downward*

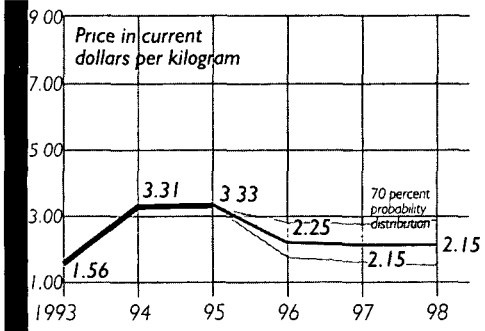
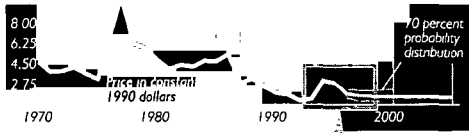


**COCOA** *Prices are stagnant due to good Ivorian and Ghanaian crops*



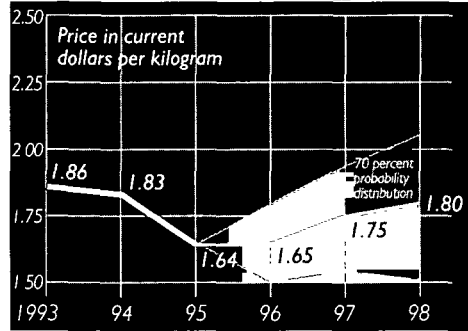
**COFFEE**

Prices expected to be close to long-term production costs



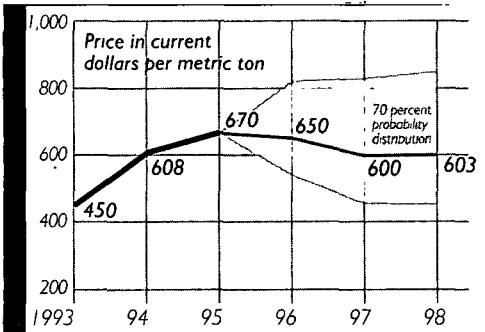
**TEA**

Little hope for long-term recovery



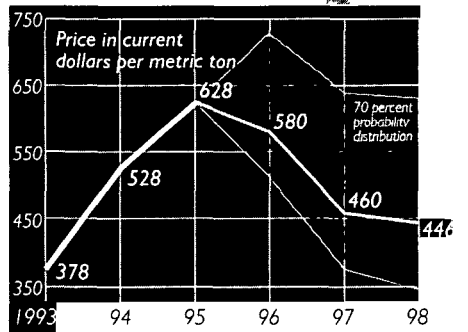
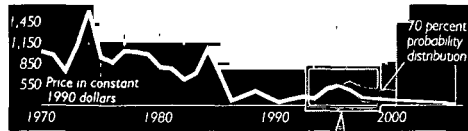
**COCONUT OIL**

Higher prices expected in 1996



**PALM OIL**

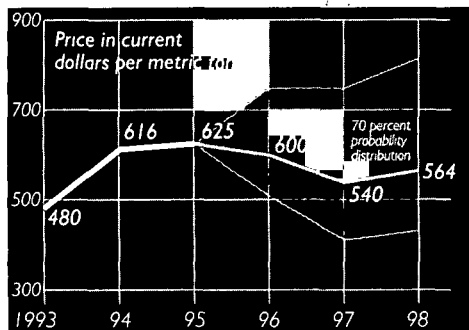
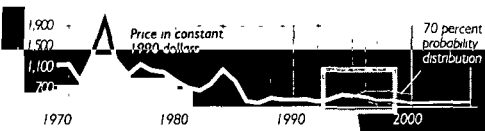
Lower prices expected



**FATS AND OILS**

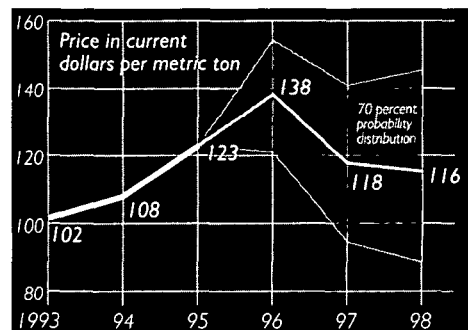
**SOYBEAN OIL**

Higher prices likely



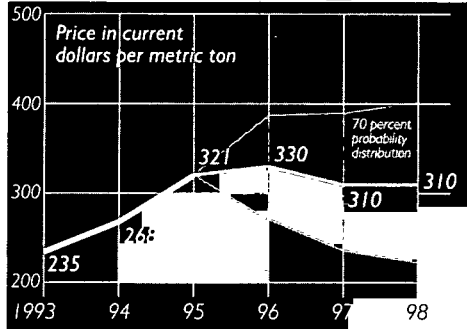
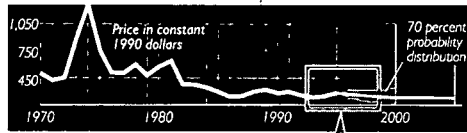
**MAIZE**

Prices expected to rise further

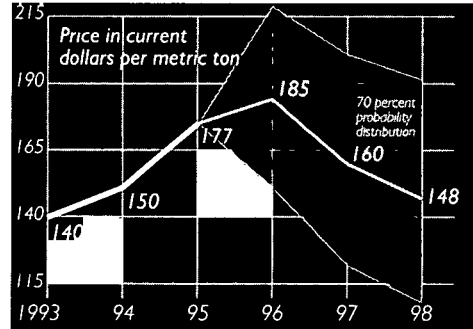
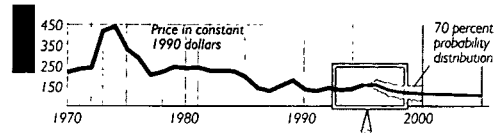


**GRAINS**

**RICE** Prices start to weaken

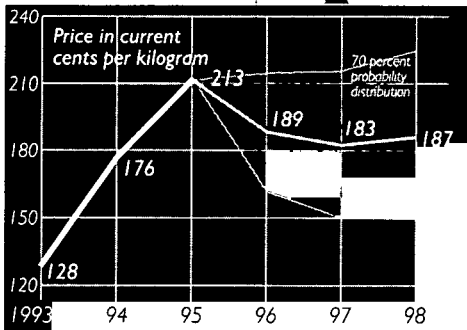
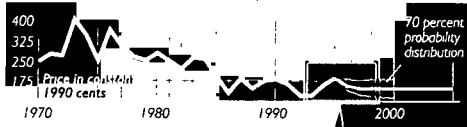


**WHEAT** Prices continue to rise

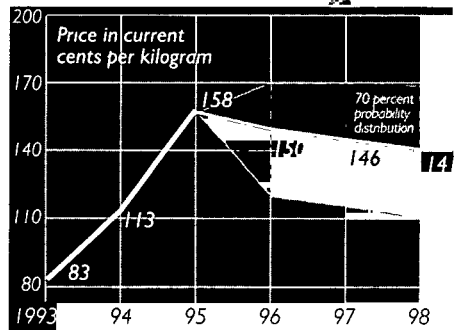
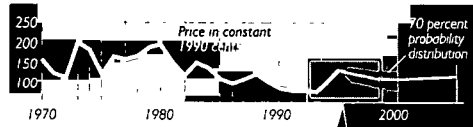


**AGRICULTURAL RAW MATERIALS**

**COTTON** Prices decline as stocks rebuild

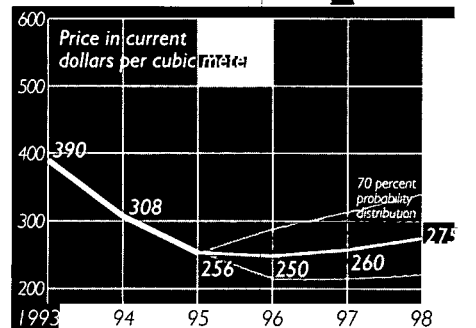
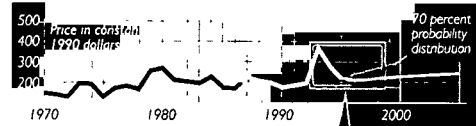


**RUBBER** Prices firm

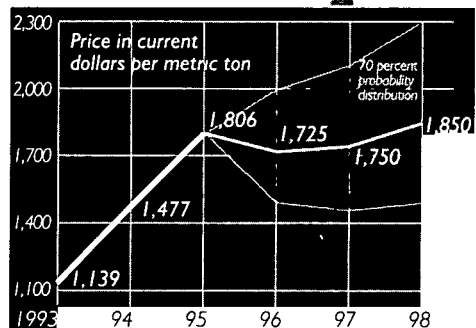
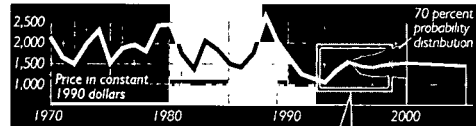


**METALS AND MINERALS**

**TIMBER (MERANTI LOGS)** Prices decline due to stagnant demand



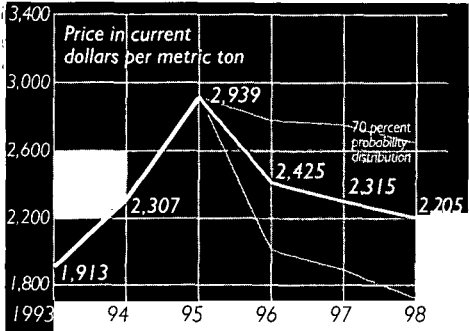
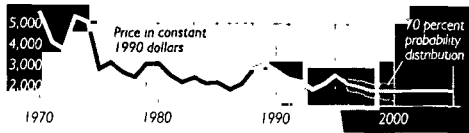
**ALUMINUM** Prices decline as consumption stagnates





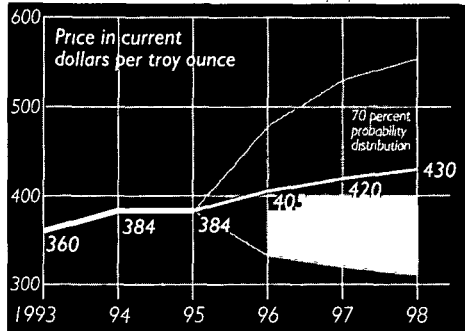
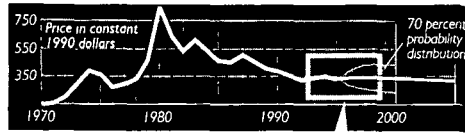
**COPPER**

*Prices retreat*



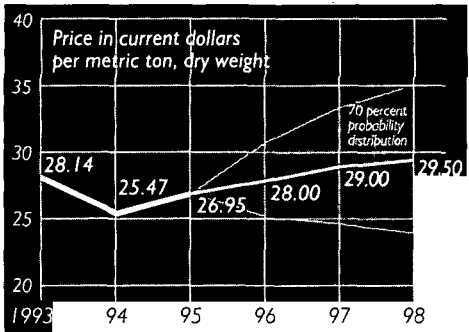
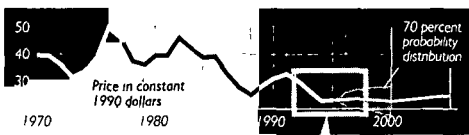
**GOLD**

*Prices rise sharply*



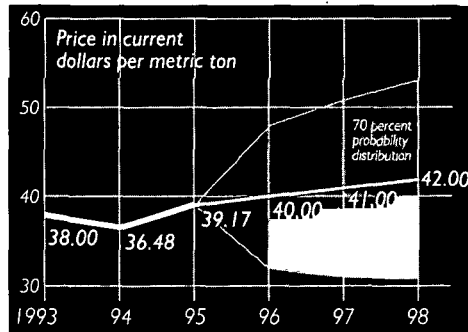
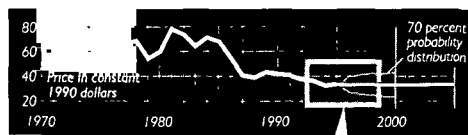
**IRON ORE**

*Modest increase in prices*



**COAL**

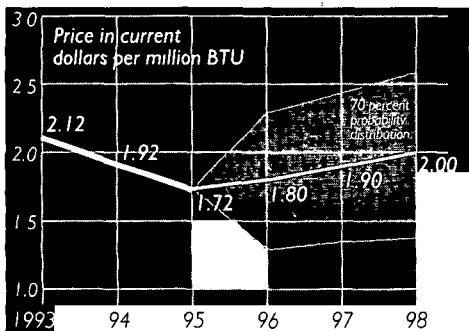
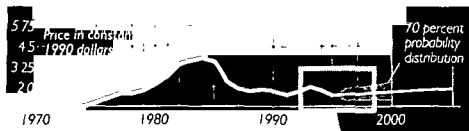
*Small increase in prices expected*



**ENERGY**

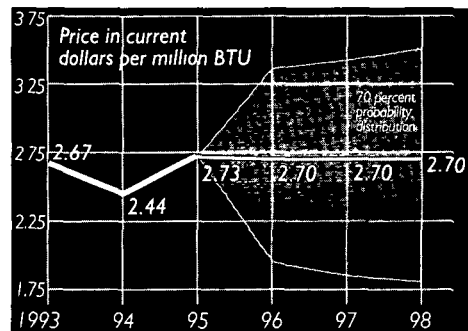
**NATURAL GAS (US)**

*Higher prices expected this year*



**NATURAL GAS (EUROPE)**

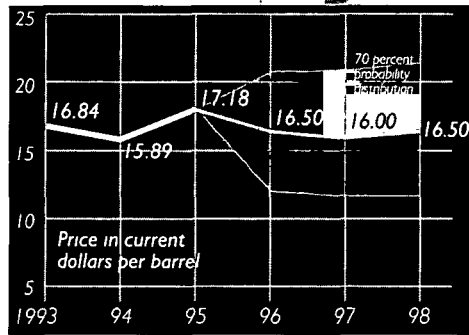
*Flat prices anticipated*



**FERTILIZERS**

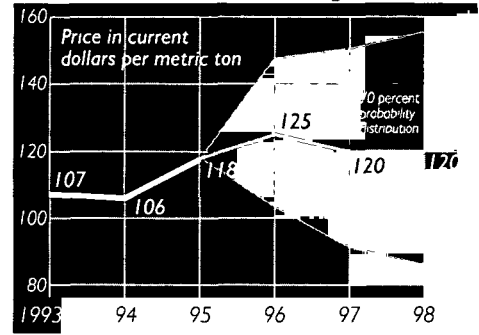
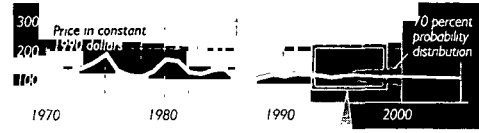
**PETROLEUM**

Prices under downward pressure



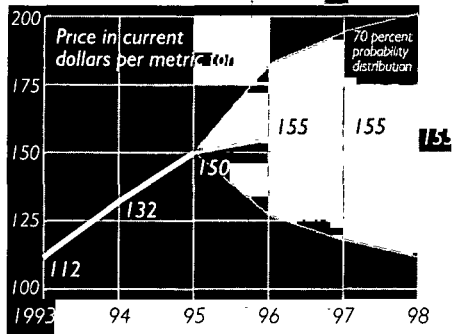
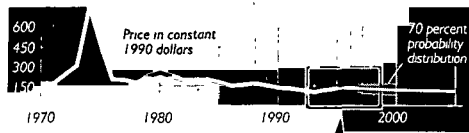
**POTASSIUM CHLORIDE**

High inventories hold down price increases



**TSP**

Prices continue to increase



**UREA**

Demand remains strong, prices high

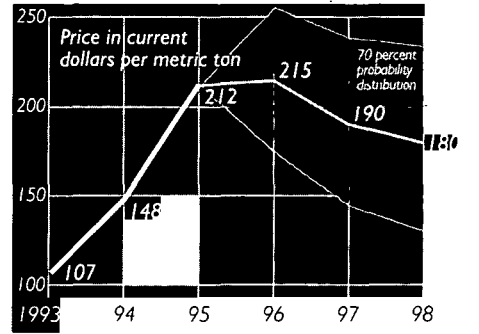
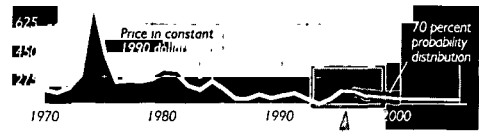


TABLE A1. COMMODITY PRICES AND PRICE PROJECTIONS IN CONSTANT 1990 DOLLARS

Commodity	Unit	Actual								Short-term projections			Long-term projections	
		1970	1980	1985	1990	1992	1993	1994	1995	1996	1997	1998	2000	2005
<b>Energy</b>														
Petroleum	\$/bbl	4.82	51.23	39.62	22.88	17.84	15.84	14.42	14.92	13.87	13.15	13.22	12.98	12.98
Coal	\$/mt	..	59.89	67.93	41.8	38.07	35.74	33.1	34.03	33.63	33.69	33.66	33.58	33.48
Natural gas, US	\$/mmbtu	0.68	2.15	3.57	1.7	1.66	1.99	1.74	1.49	1.51	1.56	1.60	1.68	1.84
Natural gas, Eur.	\$/mmbtu	..	4.72	5.39	2.55	2.4	2.51	2.21	2.37	2.27	2.22	2.16	2.06	1.98
<b>Food</b>														
Coffee (other milds)	¢/kg	457	482	471	197	132	147	300	289	189	177	172	168	164
Coffee (robusta)	¢/kg	364	451	386	118	88	109	238	241	151	140	136	134	130
Cocoa	¢/kg	269	362	329	127	103	105	127	124	120	126	127	131	137
Tea	¢/kg	437	310	289	203	188	175	166	143	139	144	144	153	150
Sugar	\$/mt	323	878	130	277	187	208	242	254	204	181	194	207	238
Beef	¢/kg	520	384	314	256	230	246	212	166	166	186	196	260	255
Shrimp	¢/kg	1,108	1,421	1,529	1,079	1,027	1,071	1,187	1,165	1,135	1,118	1,098	1,105	1,051
Bananas	\$/mt	659	527	551	541	444	417	399	387	371	371	371	370	369
Oranges	\$/mt	670	543	581	531	459	407	373	462	404	400	400	370	409
Rice	\$/mt	504	571	287	271	251	221	243	279	277	255	248	241	238
Wheat	\$/mt	219	240	198	136	142	132	136	154	156	131	119	111	109
Maize	\$/mt	233	174	164	109	98	96	98	107	116	97	93	92	85
Grain sorghum	\$/mt	207	179	150	104	96	93	94	103	113	94	90	90	83
<b>Fats and oils</b>														
Palm oil	\$/mt	1,037	811	730	290	369	355	480	546	488	378	357	322	284
Coconut oil	\$/mt	1,584	936	860	337	542	424	551	582	547	493	483	599	489
Groundnut oil	\$/mt	1,510	1,191	1,319	964	572	695	928	861	790	629	614	588	450
Soybean oil	\$/mt	1,142	829	834	447	402	452	559	543	505	444	452	382	400
Soybeans	\$/mt	466	412	327	247	221	240	229	225	252	230	216	233	248
Copra	\$/mt	897	629	563	231	357	278	379	381	286	271	316	420	344
Groundnut meal	\$/mt	407	334	208	185	146	158	153	147	161	147	139	167	187
Soybean meal	\$/mt	411	364	229	209	192	196	175	171	206	192	181	196	224
<b>Nonfood agriculture</b>														
Cotton	¢/kg	252	284	192	182	120	120	160	185	159	150	150	150	150
Jute	\$/mt	1,092	428	850	408	300	257	271	320	315	288	284	279	275
Rubber	¢/kg	162	198	111	86	81	78	102	137	126	120	113	110	117
Tobacco	\$/mt	4,290	3,162	3,807	3,392	3,226	2,535	2,395	2,285	2,207	2,178	2,144	2,080	1,947
<b>Timber</b>														
Logs (meranti)	\$/m <sup>3</sup>	148	272	177	177	196	367	279	222	210	214	220	229	246
Logs (sapelli)	\$/m <sup>3</sup>	171	350	253	344	311	292	300	295	282	288	296	308	333
Sawnwood	\$/m <sup>3</sup>	699	551	448	533	569	713	745	643	626	624	633	649	683
<b>Metals and minerals</b>														
Copper	\$/mt	5,634	3,032	2,066	2,662	2,139	1,799	2,094	2,550	2,039	1,902	1,767	1,742	1,742
Tin	¢/kg	1,465	2,331	1,682	609	572	528	496	540	519	498	486	488	577
Nickel	\$/mt	11,348	9,058	7,142	8,864	6,566	4,979	5,753	7,147	6,475	6,409	6,330	6,182	6,174
Aluminum	\$/mt	2,153	2,466	1,517	1,639	1,176	1,071	1,340	1,568	1,450	1,438	1,482	1,527	1,503
Lead	\$/mt	1,212	1,259	570	811	508	382	497	548	572	542	533	515	467
Zinc	\$/mt	1,176	1,057	1,141	1,513	1,163	905	905	896	894	879	873	859	857
Iron ore	\$/mt	39.23	39.03	38.72	30.8	29.65	26.47	23.11	23.41	23.54	23.83	23.64	22.9	25.15
Gold	\$/toz	143	845	463	384	322	338	348	334	341	345	345	340	321
Silver	¢/toz	706	2,867	895	482	369	404	480	451	454	460	459	441	410
<b>Fertilizers</b>														
Phosphate rock	\$/mt	44	65	49	41	39	31	30	30	33	33	32	31	30
Urea	\$/mt	193	309	199	157	132	100	134	184	181	156	144	133	128
TSP	\$/mt	169	251	177	132	113	105	120	130	130	127	124	117	108
DAP	\$/mt	215	309	246	171	136	121	157	188	189	173	168	151	143
Potassium chloride <sup>a</sup>	\$/mt	126	161	122	98	105	101	96	102	105	99	96	97	92

Not available

Note: Computed from unrounded data and deflated by MUV (1990=100). Forecast as of February 6, 1996.

a. Also known as munite of potash

Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit

**COMMODITY PRICE OUTLOOK**
**TABLE A2. COMMODITY PRICES AND PRICE PROJECTIONS IN CURRENT DOLLARS**

Commodity	Unit	Actual								Short-term projections			Long-term projections	
		1970	1980	1985	1990	1992	1993	1994	1995	1996	1997	1998	2000	2005
<b>Energy</b>														
Petroleum	\$/bbl	1.21	36.87	27.18	22.88	19.02	16.84	15.89	17.18	16.50	16.00	16.50	17.00	19.00
Coal	\$/mt	..	43.10	46.60	41.80	40.60	38.00	36.48	39.17	40.00	41.00	42.00	44.00	49.00
Natural gas, US	\$/mmbtu	0.17	1.55	2.45	1.70	1.77	2.12	1.92	1.72	1.80	1.90	2.00	2.20	2.70
Natural gas, Eur.	\$/mmbtu	..	3.40	3.70	2.55	2.56	2.67	2.44	2.73	2.70	2.70	2.70	2.70	2.90
<b>Food</b>														
Coffee (other milds)	¢/kg	115	347	323	197	141	156	331	333	225	215	215	220	240
Coffee (robusta)	¢/kg	91	324	265	118	94	116	262	277	180	170	170	175	190
Cocoa	¢/kg	68	260	225	127	110	112	140	143	143	153	158	172	201
Tea	¢/kg	110	223	198	203	200	186	183	164	165	175	180	200	220
Sugar	\$/mt	81	632	90	277	200	221	267	293	243	221	243	272	349
Beef	¢/kg	130	276	215	256	246	262	233	191	198	226	245	341	373
Shrimp	¢/kg	278	1,023	1,049	1,079	1,095	1,139	1,308	1,342	1,350	1,360	1,370	1,448	1,539
Bananas	\$/mt	165	379	378	541	473	443	439	445	441	452	463	485	540
Oranges	\$/mt	168	391	398	531	489	433	411	531	480	487	499	485	598
Rice	\$/mt	126	411	197	271	268	235	268	321	330	310	310	316	348
Wheat	\$/mt	55	173	136	136	151	140	150	177	185	160	148	146	160
Maize	\$/mt	58	125	112	109	104	102	108	123	138	118	116	121	125
Grain sorghum	\$/mt	52	129	103	104	103	99	104	119	134	115	113	118	122
<b>Fats and oils</b>														
Palm oil	\$/mt	260	584	501	290	394	378	528	628	580	460	446	422	416
Coconut oil	\$/mt	397	674	590	337	578	450	608	670	650	600	603	785	716
Groundnut oil	\$/mt	379	859	905	964	610	739	1,023	991	940	766	766	771	659
Soybean oil	\$/mt	286	597	572	447	429	480	616	625	600	540	564	500	586
Soybeans	\$/mt	117	296	224	247	236	255	252	259	300	280	269	305	363
Copra	\$/mt	225	453	386	231	380	295	417	439	340	330	394	550	504
Groundnut meal	\$/mt	102	240	143	185	156	168	168	169	191	179	173	219	274
Soybean meal	\$/mt	103	262	157	209	204	208	192	197	245	234	226	257	328
<b>Nonfood agriculture</b>														
Cotton	¢/kg	63	205	132	182	128	128	176	213	189	183	187	197	220
Jute	\$/mt	274	308	583	408	320	273	298	368	375	350	355	366	403
Rubber	¢/kg	41	142	76	86	86	83	113	158	150	146	141	144	171
Tobacco	\$/mt	1,076	2,276	2,612	3,392	3,440	2,695	2,639	2,630	2,625	2,650	2,675	2,725	2,850
<b>Timber</b>														
Logs (meranti)	\$/m <sup>3</sup>	37	196	122	177	210	390	308	256	250	260	275	300	360
Logs (sapelli)	\$/m <sup>3</sup>	43	252	174	344	331	310	330	340	335	350	370	404	487
Sawnwood	\$/m <sup>3</sup>	175	396	307	533	607	758	821	740	745	760	790	850	1,000
<b>Metals and minerals</b>														
Copper	\$/mt	1,413	2,182	1,417	2,662	2,281	1,913	2,307	2,936	2,425	2,315	2,205	2,282	2,550
Tin	¢/kg	367	1,677	1,154	609	610	561	546	621	617	606	606	639	845
Nickel	\$/mt	2,846	6,519	4,899	8,864	7,001	5,293	6,340	8,228	7,700	7,800	7,900	8,100	9,038
Aluminum	\$/mt	540	1,775	1,041	1,639	1,254	1,139	1,477	1,806	1,725	1,750	1,850	2,000	2,200
Lead	\$/mt	304	906	391	811	541	406	548	631	680	660	665	675	684
Zinc	\$/mt	295	761	783	1,513	1,240	962	998	1,031	1,063	1,070	1,090	1,125	1,255
Iron ore	\$/mt	9.84	28.09	26.56	30.80	31.62	28.14	25.47	26.95	28.00	29.00	29.50	30.00	36.82
Gold	\$/toz	36	608	318	384	344	360	384	384	405	420	430	445	470
Silver	¢/toz	177	2,064	614	482	394	430	528	519	540	560	573	578	600
<b>Fertilizers</b>														
Phosphate rock	\$/mt	11	47	34	41	42	33	33	35	39	40	40	41	44
Urea	\$/mt	48	222	136	157	140	107	148	212	215	190	180	174	187
TSP	\$/mt	43	180	121	132	121	112	132	150	155	155	155	153	158
DAP	\$/mt	54	222	169	171	145	129	173	217	225	210	210	198	209
Potassium chloride <sup>a</sup>	\$/mt	32	116	84	98	112	107	106	118	125	120	120	127	135

. Not available

Note: Computed from unrounded data. Forecast as of February 6, 1996

a Also known as muriate of potash

Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit

TABLE A3. WEIGHTED INDEX OF COMMODITY PRICES IN CURRENT DOLLARS AND IN CONSTANT 1990 DOLLARS

1990=100

Year	Agriculture											
	Petroleum	Nonfuel commodities (100.0)	Food					Raw materials		Metals and minerals (28.1) <sup>a</sup>	Fertilizers (2.7) <sup>a</sup>	
			Total (69.1) <sup>a</sup>	Total (29.4) <sup>a</sup>	Grains (6.9) <sup>a</sup>	Fats and oils (10.1) <sup>a</sup>	Other (12.4) <sup>a</sup>	Beverages (16.9) <sup>a</sup>	Total (22.8) <sup>a</sup>			Timber (9.3) <sup>a</sup>
Current dollars												
1980	161.1	126.3	138.9	139.2	134.3	148.6	134.3	185.1	104.3	79.0	95.1	128.9
1985	118.8	91.7	100.5	86.3	89.2	113.0	62.9	165.3	70.8	59.1	70.2	89.0
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	84.7	95.5	97.9	99.2	101.7	104.5	93.3	93.8	99.1	104.2	88.9	102.4
1992	83.1	92.1	94.4	100.0	101.7	111.7	89.5	79.4	98.3	114.5	86.1	95.8
1993	73.6	91.6	99.1	98.6	93.6	111.5	90.7	84.9	110.3	152.4	74.0	83.7
1994	69.4	111.9	123.7	106.8	102.1	126.0	93.8	150.4	125.8	156.6	84.6	93.4
1995	75.1	122.3	131.5	116.9	120.3	136.6	98.8	152.0	135.2	139.5	101.6	103.6
1996	72.1	113.3	121.2	118.5	127.4	144.9	91.9	113.8	130.0	139.9	94.2	109.8
1997	69.9	110.3	116.9	109.7	113.7	129.3	91.4	112.6	129.4	143.1	93.9	110.7
1998	72.1	111.1	117.8	109.6	110.6	126.2	95.4	113.9	131.4	149.1	94.7	110.7
2000	74.3	117.3	124.9	117.4	112.5	135.9	105.1	119.5	138.6	160.7	99.2	110.6
2005	83.0	132.8	141.5	131.6	121.5	154.5	118.5	132.8	160.6	189.6	113.3	115.8
Constant 1990 dollars												
1980	223.8	175.4	192.9	193.4	186.5	206.4	186.5	257.2	144.9	109.7	132.1	179.0
1985	173.2	133.6	146.5	125.9	130.0	164.8	91.7	241.0	103.3	86.1	102.3	129.8
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	82.8	93.4	95.7	97.0	99.5	102.2	91.3	91.8	97.0	102.0	87.0	100.2
1992	78.0	86.4	88.6	93.8	95.4	104.8	84.0	74.5	92.2	107.4	80.8	89.9
1993	69.3	86.2	93.2	92.7	88.1	104.9	85.3	79.9	103.7	143.3	69.6	78.7
1994	63.0	101.6	112.3	97.0	92.6	114.3	85.2	136.5	114.2	142.1	76.8	84.7
1995	65.2	106.3	114.2	101.6	104.6	118.7	85.9	132.0	117.4	121.2	88.3	90.0
1996	60.7	95.3	101.9	99.7	107.2	121.9	77.3	95.7	109.3	117.7	79.3	92.3
1997	57.5	90.6	96.1	90.1	93.4	106.2	75.1	92.6	106.3	117.6	77.1	91.0
1998	57.8	89.0	94.4	87.8	88.6	101.1	76.4	91.3	105.3	119.5	75.9	88.7
2000	56.7	89.5	95.4	89.6	85.9	103.7	80.2	91.2	105.8	122.7	75.7	84.5
2005	56.7	90.7	96.6	89.9	83.0	105.5	81.0	90.7	109.7	129.5	77.4	79.1

Note: Figures for 1996–2005 are projections. Weights used are the average 1987–89 export values for low- and middle-income economies. Forecast as of February 6, 1996.  
 a. Percentage share of commodity group in nonfuel index.

Source: World Bank, International Economics Department, Commodity Policy and Analysis. Unit.

TABLE A4. INFLATION INDICES FOR SELECTED YEARS

Year	G-5 MUV index <sup>a</sup>		US GDP deflator		G-5 GDP/GNP deflator <sup>b</sup>		G-7 CPI <sup>c</sup>	
	1990=100	% change	1990=100	% change	1990=100	% change	1990=100	% change
1980	71.98		63.33		63.99		63.13	
1985	68.61	-0.95	83.38	5.66	67.57	1.09	64.96	0.57
1990	100.00	7.83	100.00	3.70	100.00	8.16	100.00	9.01
1991	102.23	2.23	103.80	3.80	104.73	4.73	104.62	4.62
1992	106.64	4.31	106.71	2.81	111.04	6.03	110.11	5.24
1993	106.33	-0.29	109.00	2.15	115.01	3.58	110.09	-0.01
1994	110.21	3.65	111.30	2.11	117.49	2.15	112.51	2.20
1995	115.13	4.47	113.97	2.40	119.81	1.97	115.38	2.54
1996	118.94	3.31	116.70	2.40	122.13	1.94	118.41	2.63
1997	121.71	2.33	120.20	3.00	125.31	2.60	121.71	2.79
2000	131.04	2.49	130.46	2.77	135.72	2.70	132.45	2.86
2005	146.40	2.24	151.24	3.00	155.60	2.77	151.95	2.79

Note: Figures for 1995–2005 are projections. Forecast as of October 12, 1995. Growth rates for years 1985, 1990, 2000, and 2005 are compound annual rates of change between the adjacent end-point years; all others are annual growth rates from the previous year.

a. Unit value index in US dollar terms of manufactures exported from the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States), weighted proportionally to the countries' exports to the developing countries.

b. Aggregate index of GDP/GNP deflators in US dollar terms for the G-5 countries, using SDR-based moving weights.

c. Aggregate consumer price index in US dollar terms for the G-7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States), weighted by the countries' 1988–90 average GDP/GNP in current US dollars.

Source: G-5 MUV index, G-5 GDP/GNP deflator, and G-7 CPI: World Bank. US GDP deflator: US Department of Commerce.

TABLE A5. COMMODITY PRICE PROBABILITY DISTRIBUTIONS IN CONSTANT 1990 DOLLARS

Commodity	Unit	70% probability distribution			
		1996	1997	1998	2000
<b>Energy</b>					
Petroleum	\$/bbl	10.30-17.45	9.53-17.09	9.22-17.23	8.62-17.32
Coal	\$/mt	26.90-40.36	25.47-41.90	24.72-42.59	23.31-43.84
Natural gas, US	\$/mmbtu	1.09-1.93	1.11-2.01	1.11-2.08	1.07-2.29
Natural gas, Europe	\$/mmbtu	1.64-2.83	1.52-2.81	1.44-2.80	1.30-2.79
<b>Food</b>					
Coffee (other milds)	¢/kg	148-240	131-232	122-234	109-243
Coffee (robusta)	¢/kg	118-193	104-183	97-185	87-194
Cocoa	¢/kg	103-140	105-150	103-156	99-174
Tea	¢/kg	126-151	127-159	121-166	125-180
Sugar (world)	\$/mt	169-234	149-217	152-235	149-259
Beef	¢/kg	133-200	140-235	148-252	182-390
Shrimp	¢/kg	1,043-1,379	871-1,528	849-1,519	807-1,712
Bananas	\$/mt	319-423	305-438	296-434	277-462
Oranges	\$/mt	347-460	328-472	320-480	317-465
Rice	\$/mt	228-327	194-321	179-323	157-350
Wheat	\$/mt	128-184	100-166	85-154	72-153
Maize	\$/mt	102-130	78-116	71-117	65-125
Grain sorghum	\$/mt	99-126	75-113	69-114	63-122
<b>Fats and oils</b>					
Palm oil	\$/mt	429-614	300-526	277-510	225-483
Coconut oil	\$/mt	454-689	374-682	363-684	419-898
Groundnut oil	\$/mt	677-958	510-896	494-894	411-882
Soybean oil	\$/mt	425-631	337-616	340-652	267-572
Soybeans	\$/mt	210-319	177-312	159-312	163-350
Copra	\$/mt	231-395	205-403	248-464	294-672
Groundnut meal	\$/mt	133-203	110-205	99-203	117-250
Soybean meal	\$/mt	173-256	151-258	137-253	137-294
<b>Nonfood agriculture</b>					
Cotton	¢/kg	136-181	123-177	119-180	117-183
Jute	\$/mt	268-362	238-337	228-341	212-346
Rubber	¢/kg	105-144	96-140	88-136	79-133
Tobacco	\$/mt	1,898-2,516	1,785-2,569	1,715-2,572	1,622-2,537
<b>Timber</b>					
Logs (meranti)	\$/m <sup>3</sup>	181-244	177-258	177-275	173-303
Logs (sapelli)	\$/m <sup>3</sup>	242-327	238-348	238-369	233-408
Sawnwood	\$/m <sup>3</sup>	539-728	516-755	508-789	490-858
<b>Metals and minerals</b>					
Copper	\$/mt	1,692-2,345	1,559-2,282	1,378-2,138	1,254-2,177
Tin	¢/kg	467-570	423-573	393-578	366-610
Nickel	\$/mt	5,826-7,121	5,447-7,370	5,128-7,533	4,636-7,727
Aluminum	\$/mt	1,248-1,685	1,189-1,739	1,190-1,847	1,154-2,019
Lead	\$/mt	515-629	461-624	432-634	386-644
Zinc	\$/mt	804-983	747-1,011	708-1,039	644-1,073
Iron ore	\$/mt	21.19-25.90	20.29-27.44	19.15-28.13	17.17-28.62
Gold	\$/toz	279-402	262-435	248-445	233-446
Silver	¢/toz	372-536	350-580	331-592	294-588
<b>Fertilizers</b>					
Phosphate rock	\$/mt	27-39	25-41	23-42	20-44
Urea	\$/mt	148-213	119-197	104-188	86-186
TSP	\$/mt	107-154	97-160	89-161	76-163
DAP	\$/mt	155-223	131-217	121-219	98-212
Potassium chloride <sup>a</sup>	\$/mt	86-124	75-124	69-125	63-134

Note: Forecast as of February 6, 1996.

a. Also known as munite of potash.

Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit

TABLE A6. COMMODITY PRICE PROBABILITY DISTRIBUTIONS IN CURRENT DOLLARS

Commodity	Unit	70% probability distribution			
		1996	1997	1998	2000
<b>Energy</b>					
Petroleum	\$/bbl	12.25-20.75	11.60-20.80	11.50-21.50	11.30-22.70
Coal	\$/mt	32.00-48.00	31.00-51.00	30.85-53.15	30.55-57.45
Natural gas, US	\$/mmbtu	1.30-2.30	1.35-2.45	1.38-2.60	1.40-3.00
Natural gas, Eur.	\$/mmbtu	1.95-3.37	1.85-3.42	1.80-3.50	1.70-3.66
<b>Food</b>					
Coffee (other milds)	¢/kg	176-286	159-282	152-292	143-319
Coffee (robusta)	¢/kg	140-229	126-223	121-231	114-254
Cocoa	¢/kg	123-166	128-183	128-195	130-228
Tea	¢/kg	150-180	154-194	151-207	164-236
Sugar (world)	\$/mt	201-279	181-265	189-293	196-339
Beef	¢/kg	158-238	171-286	185-315	238-511
Shrimp	¢/kg	1,240-1,640	1,060-1,860	1,060-1,895	1,057-2,244
Bananas	\$/mt	379-503	371-533	370-542	363-606
Oranges	\$/mt	413-547	399-575	399-599	415-609
Rice	\$/mt	271-389	236-391	223-403	206-459
Wheat	\$/mt	152-218	122-202	107-192	95-201
Maize	\$/mt	121-155	94-142	88-146	85-163
Grain sorghum	\$/mt	118-150	92-137	86-142	83-159
<b>Fats and oils</b>					
Palm oil	\$/mt	510-730	365-640	346-636	295-633
Coconut oil	\$/mt	540-820	455-830	453-853	549-1,177
Groundnut oil	\$/mt	805-1,140	621-1,091	616-1,116	539-1,156
Soybean oil	\$/mt	505-750	410-750	424-814	350-750
Soybeans	\$/mt	250-380	215-380	199-389	214-458
Copra	\$/mt	275-470	250-490	309-579	385-881
Groundnut meal	\$/mt	158-241	134-249	123-253	153-328
Soybean meal	\$/mt	206-305	184-314	171-316	180-385
<b>Nonfood agriculture</b>					
Cotton	¢/kg	162-215	150-216	149-224	153-240
Jute	\$/mt	319-431	290-410	284-426	278-454
Rubber	¢/kg	124-171	116-170	110-169	104-175
Tobacco	\$/mt	2,257-2,992	2,173-3,127	2,140-3,210	2,125-3,324
<b>Timber</b>					
Logs (meranti)	\$/m <sup>3</sup>	215-290	215-314	221-343	227-397
Logs (sapelli)	\$/m <sup>3</sup>	288-389	289-423	297-461	305-535
Sawnwood	\$/m <sup>3</sup>	641-866	628-919	634-984	642-1,125
<b>Metals and minerals</b>					
Copper	\$/mt	2,013-2,789	1,898-2,778	1,720-2,668	1,643-2,853
Tin	¢/kg	555-678	515-697	491-721	479-799
Nickel	\$/mt	6,930-8,470	6,630-8,970	6,399-9,401	6,075-10,125
Aluminum	\$/mt	1,485-2,004	1,447-2,116	1,485-2,305	1,512-2,646
Lead	\$/mt	612-748	561-759	539-791	506-844
Zinc	\$/mt	957-1,169	910-1,231	883-1,297	844-1,406
Iron Ore	\$/mt	25.20-30.80	24.70-33.40	23.90-35.10	22.50-37.50
Gold	\$/toz	332-478	319-529	310-555	305-585
Silver	¢/toz	443-637	426-706	413-739	385-770
<b>Fertilizers</b>					
Phosphate rock	\$/mt	32-46	30-50	29-52	27-57
Urea	\$/mt	176-254	144-239	130-234	113-244
TSP	\$/mt	127-183	118-195	112-202	99-214
DAP	\$/mt	185-266	160-264	151-273	129-277
Potassium chloride <sup>a</sup>	\$/mt	103-148	91-151	86-156	83-175

Note: Forecast as of February 6, 1996.

a Also known as muriate of potash.

Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit

**COMMODITY PRICE OUTLOOK**
**TABLE A7. RECENT COMMODITY PRICES**

Commodity	Unit	Annual averages			Quarterly averages					Monthly averages		
		Jan-Dec 1993	Jan-Dec 1994	Jan-Dec 1995	Oct-Dec 1994	Jan-Mar 1995	Apr-Jun 1995	Jul-Sep 1995	Oct-Dec 1995	Oct 1995	Nov 1995	Dec 1995
<b>Beverages</b>												
Cocoa	¢/kg	111.7	139.6	143.2	142.7	148.8	144.8	139.1	140.3	139.5	143.5	137.8
Coffee												
Other milds	¢/kg	156.0	330.8	333.2	406.6	383.5	367.4	318.4	263.6	280.6	276.1	234.2
Robusta	¢/kg	115.7	262.0	277.1	332.5	303.0	304.6	268.2	232.5	248.6	244.1	204.8
Tea	¢/kg	186.4	183.2	164.3	180.6	167.7	159.4	153.0	177.0	177.1	174.1	179.9
<b>Cereals</b>												
Rice: Thailand												
5% BOT <sup>a</sup>	\$/mt	270.0	357.2	327.9	297.5	283.2	298.8	347.9	381.6	383.8	386.0	375.0 <sup>b</sup>
5% Indicative	\$/mt	235.4	267.6	320.8	262.3	281.2	299.5	348.3	354.4	382.6	340.5	340.0 <sup>b</sup>
35% Indicative <sup>a</sup>	\$/mt	191.4	218.5	290.1	236.7	253.9	270.7	317.1	318.8	339.0	310.8	306.7 <sup>b</sup>
AI Special <sup>a</sup>	\$/mt	157.3	182.3	262.9	218.6	225.6	246.7	288.9	290.3	294.4	298.3	278.3 <sup>b</sup>
Grain sorghum	\$/mt	99.0	103.9	119.0	96.9	102.2	108.1	121.7	144.0	137.1	141.8	153.0
Maize	\$/mt	102.1	107.6	123.5	98.1	107.8	113.7	128.0	144.5	140.9	143.9	148.6
Wheat												
Canada <sup>a</sup>	\$/mt	192.7	198.6	207.1	189.3	180.6	194.2	221.6	232.2	229.0	231.9	235.7
US HRW	\$/mt	140.2	149.7	177.0	164.6	153.6	159.2	189.6	205.5	203.7	203.9	208.9
US SRW <sup>a</sup>	\$/mt	134.8	138.6	167.4	155.7	148.6	145.8	175.8	199.2	194.0	198.3	205.3
<b>Meat</b>												
Beef: US	¢/kg	261.8	233.1	190.7	217.2	213.1	184.0	173.9	191.8	186.5	196.2	192.8
Lamb <sup>a</sup>	¢/kg	290.7	297.5	262.1	300.0	273.0	256.6	254.0	264.7	267.1	265.5	261.6
<b>Fruits</b>												
Bananas	\$/mt	443.0	439.8	445.1	386.0	445.4	382.6	525.1	427.3	433.2 <sup>d</sup>	440.9 <sup>d</sup>	407.9 <sup>d</sup>
Oranges	\$/mt	432.5	411.3	531.5	332.2	406.0	591.1	610.9	517.9	546.2	564.2	443.2
<b>Fats and oils</b>												
Palm oil	\$/mt	377.8	528.4	628.3	680.7	667.7	622.3	619.0	604.0	615.0	607.0	590.0
Coconut oil	\$/mt	450.3	607.5	669.6	673.0	630.0	634.3	685.3	728.7	718.0	750.0	718.0
Groundnut oil	\$/mt	739.1	1,022.8	990.9	1,046.3	1,023.0	973.0	976.7	991.0	990.0	995.0	988.0
Soybean oil	\$/mt	480.4	615.6	625.1	680.3	663.0	605.3	618.7	613.3	638.0	623.0	579.0
Soybeans	\$/mt	255.1	251.8	259.3	236.3	242.3	250.3	261.3	283.0	271.0	282.0	296.0
Copra <sup>a</sup>	\$/mt	295.4	417.3	438.5	447.3	412.7	416.0	452.0	473.3	464.0	488.0	468.0
Groundnut meal <sup>a</sup>	\$/mt	168.1	168.3	168.6	155.3	167.3	156.7	166.0	184.3	178.0	182.0	193.0
Soybean meal	\$/mt	208.2	192.4	196.9	176.3	181.0	180.7	196.3	229.7	214.0	225.0	250.0
<b>Fisheries</b>												
Shrimp <sup>a</sup>	¢/kg	1,139.0	1,307.5	1,341.5	1,358.6	1,372.9	1,464.7	1,340.4	1,229.1	1,223.6	1,242.8	1,220.8 <sup>b</sup>
Fish meal <sup>a</sup>	\$/mt	364.8	376.3	495.0	403.3	439.7	450.0	500.0	590.3	522.0	602.0	647.0
<b>Fibers</b>												
Cotton	¢/kg	128.0	176.3	212.8	175.5	225.7	234.7	193.7	197.1	200.9	196.6	193.7
Jute <sup>a</sup>	\$/mt	273.3	298.3	368.0	231.3	256.7	330.2	418.7	466.7	480.0	460.0	460.0
Sisal <sup>a</sup>	\$/mt	615.3	605.3	709.7	603.3	687.5	700.0	715.8	735.3	650.0	770.0	786.0
Wool <sup>a</sup>	¢/kg	301.7	389.3	488.3	436.4	502.8	512.8	487.9	430.4		434.4	426.4
<b>Rubber</b>												
RSSI: Malaysia	¢/kg	83.1	112.6	158.0	139.2	173.9	170.1	132.6	155.3	141.0	161.3	163.6
Singapore <sup>a</sup>	¢/kg	83.0	115.4	160.3	141.3	177.3	172.6	134.6	156.5	146.3	163.3	160.0
US <sup>a</sup>	¢/kg	99.3	131.6	181.4	163.5	200.3	193.7	155.1	176.5	162.5	183.2	183.8
<b>Sugar</b>												
EU domestic	¢/kg	61.9	62.2	68.8	65.6	66.1	70.3	69.6	69.3	69.8	69.5	68.4
US domestic	¢/kg	47.6	48.6	50.8	48.1	49.8	51.0	52.3	50.2	50.6	49.8	50.0
World	¢/kg	22.1	26.7	29.3	30.4	32.2	30.3	28.1	26.5	26.0	26.4	27.1
<b>Metals and minerals</b>												
Copper	\$/mt	1,913.1	2,307.3	2,935.6	2,778.5	2,936.9	2,890.5	3,009.3	2,905.7	2,813.6	2,977.4	2,926.3
Tin	¢/kg	516.1	546.4	621.4	586.0	573.7	615.6	666.3	629.9	622.1	638.7	629.0
Nickel	\$/mt	5,293.4	6,339.8	8,228.0	7,620.0	8,543.3	7,500.5	8,648.8	8,219.5	8,061.7	8,505.9	8,090.9
Aluminum	\$/mt	1,139.0	1,476.8	1,805.7	1,823.0	1,927.3	1,797.2	1,836.4	1,661.7	1,674.3	1,654.1	1,656.7
Lead	¢/kg	40.6	54.8	63.1	64.8	61.1	60.6	61.3	69.5	63.9	71.4	73.2
Zinc	¢/kg	96.2	99.8	103.1	110.8	107.0	103.6	100.9	100.9	97.9	103.1	101.8
Gold <sup>a</sup>	\$/toz	359.8	384.0	384.2	384.5	379.1	387.9	384.3	385.3	383.1	385.3	387.4
Silver <sup>a</sup>	¢/toz	429.8	528.4	519.1	513.5	470.2	547.6	532.7	526.0	534.5	529.3	514.2



TABLE A7. RECENT COMMODITY PRICES (CONTINUED)

Commodity	Unit	Annual averages			Quarterly averages					Monthly averages		
		Jan-Dec 1993	Jan-Dec 1994	Jan-Dec 1995	Oct-Dec 1994	Jan-Mar 1995	Apr-Jun 1995	Jul-Sep 1995	Oct-Dec 1995	Oct 1995	Nov 1995	Dec 1995
Iron ore	\$/mt	28.1	25.5	27.0	25.5	27.0	27.0	27.0	27.0	27.0	27.0	27.0
Steel												
Rebar <sup>a</sup>	\$/mt	348.8	322.5	381.7	328.3	346.7	410.0	390.0	380.0	380.0	380.0	380.0
Wire rod <sup>a</sup>	\$/mt	395.8	371.7	420.8	356.7	366.7	426.7	433.3	456.7	450.0	440.0	480.0
Hr coilsheet <sup>a</sup>	\$/mt	375.8	402.9	440.8	410.0	416.7	453.3	466.7	426.7	440.0	430.0	410.0
Cr coilsheet <sup>a</sup>	\$/mt	470.0	511.7	554.2	520.0	526.7	560.0	576.7	553.3	560.0	550.0	550.0
<b>Energy</b>												
Crude oil												
Spot, average <sup>c</sup>	\$/bbl	16.8	15.9	17.2	16.5	17.2	18.1	16.5	16.9	16.1	16.7	17.9
Brent <sup>c</sup>	\$/bbl	17.0	15.8	17.1	16.5	16.9	18.1	16.2	17.0	16.1	16.9	18.0
Dubai <sup>c</sup>	\$/bbl	14.9	14.7	16.1	15.3	16.4	17.0	15.3	15.8	14.9	15.6	16.8
West Texas Int <sup>c</sup>	\$/bbl	18.6	17.2	18.3	17.6	18.2	19.3	17.8	18.0	17.3	17.8	18.8
Natural gas												
Europe <sup>a</sup>	\$/mmbtu	2.7	2.4	2.7	2.6	2.7	2.7	2.8	2.8	2.8	2.8	2.7
US <sup>a</sup>	\$/mmbtu	2.1	1.9	1.7	1.6	1.5	1.6	1.5	2.2	1.8	2.0	2.7
Coal												
Australia <sup>a</sup>	\$/mt	31.3	32.3	39.4	34.1	37.7	38.9	41.0	40.0	41.0	39.6	39.3
US <sup>a</sup>	\$/mt	38.0	36.5	39.2	37.0	41.2	40.5	38.6	36.5	36.5	36.5	36.6
<b>Timber</b>												
Logs												
Cameroon <sup>a</sup>	\$/m <sup>3</sup>	310.3	330.3	339.5	349.2	340.7	345.8	343.6	328.0	344.1	337.7	302.2
Malaysia	\$/m <sup>3</sup>	389.8	307.5	255.6	273.0	261.1	286.9	239.0	235.5	233.9	231.0	241.8
Sawnwood												
Ghana <sup>a</sup>	\$/m <sup>3</sup>	530.7	618.5	632.5	654.1	651.1	648.7	640.3	589.8	613.3	585.4	570.8
Malaysia	\$/m <sup>3</sup>	758.3	821.0	740.0	792.2	753.5	746.9	740.9	718.5	723.5	716.1	715.8
Plywood <sup>a</sup>	\$/sheet	661.4	601.2	580.6	556.9	602.2	642.5	557.6	520.0	526.5	520.0	513.3
Woodpulp <sup>a</sup>	\$/mt	423.9	552.5	857.2	679.9	736.3	835.0	898.5	958.9	965.0	955.9	955.9
<b>Fertilizers</b>												
Phosphate rock	\$/mt	33.0	33.0	35.0	33.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Urea <sup>a</sup>	\$/mt	106.8	147.9	211.5	183.7	224.3	195.3	197.3	229.0	220.0 <sup>d</sup>	233.5 <sup>d</sup>	233.5 <sup>d</sup>
TSP	\$/mt	111.9	132.1	149.6	138.2	145.8	147.5	147.5	157.7	150.0	160.7	162.5
DAP <sup>a</sup>	\$/mt	129.1	172.8	216.6	181.6	215.0	196.8	210.7	243.9	237.3	248.8	245.5
Potassium chloride <sup>a</sup>	\$/mt	107.4	105.7	117.8	110.1	114.8	118.3	119.0	118.9	119.0	119.8	117.8
<b>World Bank commodity price indices for low- and middle-income countries (1990=100)</b>												
Agriculture		99.1	123.7	131.5	133.3	136.4	134.9	128.0	126.6	127.0	128.1	124.8
Food		98.6	106.9	116.9	110.8	113.4	112.7	119.5	122.1	121.7	121.9	122.6
Cereals		93.6	102.1	120.3	101.9	104.9	110.6	128.4	137.5	140.3	134.8	137.4
Fats and oils		111.5	126.0	136.6	135.9	135.1	131.0	136.1	144.2	141.2	144.0	147.4
Other food		90.7	93.9	98.8	95.3	100.4	98.8	100.9	95.3	95.3	96.5	94.0
Beverages		84.9	150.4	152.0	177.8	169.1	163.7	145.7	129.4	135.3	134.2	118.6
Agricultural raw materials		110.3	125.8	135.2	129.5	141.9	142.3	126.2	130.5	127.8	131.6	132.1
Timber		152.4	156.6	139.5	149.3	142.1	143.1	138.4	134.5	135.2	133.8	134.6
Other raw materials		81.5	104.8	132.2	115.9	141.8	141.8	117.4	127.7	122.7	130.1	130.3
Metals and minerals (excl. steel)		74.0	84.6	101.6	98.5	103.6	100.2	103.7	98.9	97.6	100.1	99.1
Steel products <sup>a</sup>		91.4	92.7	106.7	94.6	98.4	109.8	111.3	107.2	108.9	106.4	106.4
Fertilizers		83.7	93.4	103.6	96.3	101.7	102.6	102.6	107.5	103.8	108.9	109.8
Nonfuel commodities (excl. steel)		91.6	111.9	122.3	122.5	126.2	124.3	120.5	118.3	118.1	119.7	117.1
Petroleum, crude		73.6	69.4	75.1	72.1	75.1	79.3	71.9	73.9	70.5	73.2	78.1

.. Not available.

Note. Prices as of January 5, 1996. Monthly updates of commodity prices are available on the internet at <http://www.worldbank.org/html/iec/cp/ieccp.html>

a. Not included in index

b. Average for less than period indicated

c. Included in the petroleum index only.

d. Estimate.

Source: World Bank, International Economics Department, Commodity Policy and Analysis Unit

## COMMODITY DESCRIPTIONS

**Foods**

*Bananas (Central & South American)*, first-class quality tropical pack, importer's price to jobber or processor, f.o.b. US ports

*Beef (Australian/New Zealand)*, cow forequarters, frozen boneless, 85% chemical lean, c.i.f. US port (East Coast), ex-dock

*Cocoa (ICCO)*, International Cocoa Organization daily price, average of the first three positions on the terminal markets of New York and London, nearest three future trading months

*Coffee (ICO)*, International Coffee Organization indicator price, other mild Arabicas, average New York and Bremen/Hamburg markets, ex-dock

*Coffee (ICO)*, International Coffee Organization indicator price, Robustas, average New York and Le Havre/Marseilles markets, ex-dock

*Fishmeal (any origin)*, 64-65%, c&f Hamburg, n/s

*Lamb (New Zealand)*, frozen whole carcasses, wholesale price, Smithfield market, London

*Oranges (Mediterranean exporters)* navel, EEC indicative import price, c.i.f. Paris

*Shrimp (US)*, frozen, Gulf brown, shell-on, headless, 26 to 30 count per pound, wholesale price at New York

*Sugar (EU)*, European Union negotiated import price for raw unpackaged sugar from African, Caribbean and Pacific (ACP) under Lomé Conventions c.i.f. European ports

*Sugar (US)*, import price, nearest future, c.i.f. New York

*\*Sugar (world)*, International Sugar Agreement (ISA) daily price, raw, f.o.b. and stowed at greater Caribbean ports

*Tea (London auctions)*, average price received for all tea

**Fats and oils**

*Coconut oil (Philippines/Indonesian)*, bulk, c.i.f. Rotterdam

*Copra (Philippines/Indonesian)*, bulk, c.i.f. N.W. Europe

*Groundnut meal (Argentine)*, 48/50%, c.i.f. Rotterdam

*Groundnut oil (any origin)*, c.i.f. Rotterdam

*Palm oil (Malaysian)*, 5% bulk, c.i.f. N. W. Europe

*Soybean meal (any origin)*, Argentine 45/46% extraction, c.i.f. Rotterdam; prior to 1990, US 44%

*Soybean oil (Dutch)*, crude, f.o.b. ex-mill

*Soybeans (US)*, c.i.f. Rotterdam

**Grains**

*Grain sorghum (US)*, no. 2 milo yellow, f.o.b. Gulf ports

*Maize (US)*, no. 2, yellow, f.o.b. US Gulf ports

*Rice (Thai)*, 5% broken, white rice (WR), milled, Board of Trade (BOT) posted export price, government standard, f.o.b. Bangkok

*\*Rice (Thai)*, 5% broken, WR, milled, indicative market price based on weekly surveys of export transactions (indicative survey price), government standard, f.o.b. Bangkok

*Rice (Thai)*, 35% broken, WR, milled, indicative survey price, government standard, f.o.b. Bangkok

*Rice (Thai)*, 100% broken, A.1 Special, broken kernel obtained from the milling of WR 15%, 20%, and 25%, indicative survey price, government standard, f.o.b. Bangkok

*Wheat (Canadian)*, no. 1, Western Red Spring (CWRS), in store, St. Lawrence, export price

*\*Wheat (US)*, no. 1, hard red winter, ordinary protein, export price delivered at the Gulf port for prompt or 30 days shipment

*Wheat (US)*, no. 2, soft red winter, export price delivered at the Gulf port for prompt or 30 days shipment

**Agricultural raw materials**

*Cotton ("cotton outlook", "A" index)*, middling 1-3/32 inch, c.i.f. Europe

*Jute (Bangladesh)*, raw, white D, f.o.b. Chittagong/Chalna

*\*Rubber (Malaysian)*, RSS no. 1, in bales, Malaysian Rubber Exchange & Licensing Board, midday buyers' asking price for prompt or 30 days delivery, f.o.b. Kuala Lumpur

*Rubber (Asian)*, RSS no. 1, in bales, Rubber Association of Singapore Commodity Exchange (RASCE)/Singapore Commodity Exchange, midday buyers' asking price for prompt or 30 days delivery; prior to June 1992, spot, Singapore

*Rubber (any origin)*, RSS no. 1, in bales, Rubber Traders Association (RTA), spot, New York

*Sisal (East African)*, UG (rejects), c.i.f. UK

*Tobacco (US)* unmanufactured, unit value of general imports, twelve-month moving averages

*Wool (Dominion)*, crossbred, 56's, clean, c.i.f. UK

**Timber**

*Logs (Malaysian)*, meranti, Sarawak, sale price charged by importers, Tokyo; prior to February 1993, average of Sabah and Sarawak weighted by Japanese import volumes

*Logs (West African)*, sapelli, high quality (loyal and marchand), f.o.b. Cameroon

*Plywood (Southeast Asian)*, Lauan, 3-ply, extra, 91 cum x 182 cum x 4 mm, wholesale price, spot Tokyo

*Sawnwood (Ghanaian)*, sapele, bundled, f.o.b. Takoradi

*\*Sawnwood (Malaysian)*, dark red seraya/meranti, select and better quality, General Market Specification (GMS), width 6 inches or more, average 7 to 8 inches, length 8 inches or more, average 12 to 14 inches, thickness 1 to 2 inch(es); kiln dry, c. & f. UK ports

*Woodpulp (Swedish)*, softwood, sulphate, bleached, air-dry weight, c.i.f. North Sea ports

**Metals and minerals**

*Aluminum (LME) London Metal Exchange*, unalloyed primary ingots, high grade, minimum 99.7% purity, cash price

*Copper (LME)*, grade A, minimum 99.9935% purity, cathodes and wire bar shapes, settlement price

*Gold (UK)*, 99.5% fine, London afternoon fixing, average of daily rates

*Iron ore (Brazilian)*, CVRD Southern System standard sinter feed, 64.3% purity (dry weight) ores from Itabira and other southern mines, contract price to Germany, f.o.b. Tubarao; unit refers to US dollars per metric ton fe, which is equivalent to US cents per fe unit (1%)

*Lead (LME)*, refined, 99.97% purity, settlement price

*Nickel (LME)*, cathodes, minimum 99.8% purity, official morning session, weekly average bid/asked price

*Silver (Handy & Harman)*, 99.9% grade refined, New York

*Steel products price index*, 1990=100, (Japanese), composite price index for eight selected steel products based on quotations f.o.b. Japan excluding shipments to the United States and China, weighted by product shares of apparent combined consumption (volume of deliveries) at Germany, Japan and the United States. The eight products are as follows: rebar (concrete reinforcing bars), merch bar (merchant bars), wire rod, section (I-shape), plate (medium), hot rolled coil/sheet, cold rolled coil/sheet, and galvanized iron sheet

*Tin (LME)*, refined, 99.85% purity, settlement price

*Zinc (LME)*, special high grade, minimum 99.995% purity, weekly average bid/asked price, official morning session; prior to April 1990, high grade, minimum 99.95% purity, settlement price

**Energy**

*Coal (Australian)*, thermal, 12,000 btu/lb, less than 1.0% sulfur, 14% ash, f.o.b. piers, Newcastle/Port Kembla

*\*Coal (US)*, thermal, 12,000 btu/lb, less than 1.0% sulfur, 12% ash, f.o.b. piers, Hampton Road/Norfolk

*Natural Gas (Europe)*, average import border price

*Natural Gas (US)*, spot price at Henry Hub, Louisiana

*\*Petroleum (spot)*, average spot price of Brent, Dubai and West Texas Intermediate, equally weighed

*Petroleum (spot)*, U.K. Brent 38° API, f.o.b. U.K. ports

*Petroleum (spot)*, Dubai Fateh 32° API, f.o.b. Dubai

*Petroleum (spot)*, West Texas Intermediate (WTI) 40° API, f.o.b. Midland Texas

**Fertilizers**

*DAP (diammonium phosphate)*, bulk, spot, f.o.b. US Gulf

*Phosphate rock (Moroccan)*, 70% PPL, contract, f.a.s. Casablanca

*Potassium chloride (muriate of potash)*, standard grade, spot, f.o.b. Vancouver

*TSP (triple superphosphate)*, bulk, spot, f.o.b. US Gulf

*Urea (varying origins)*, bagged, spot, f.o.b. West Europe

\* The price series forecast in tables A1 and A2.

# World Bank quarterlies

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