



**REGIONAL WORKSHOP ON COMMODITY EXPORT DIVERSIFICATION AND
POVERTY REDUCTION IN SOUTH AND SOUTH-EAST ASIA
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*Creating a market environment where seasonal
price fluctuations are not excessive*

*By Andrew Zemek
APZ Consulting, London UK*

Nobody likes fluctuating prices, though most of us treats them just as a fact of life. But how much fluctuation is “normal” and how much is “excessive”? Let’s take a look at the pieces of the most popular ‘soft’ commodities grown around this region.

FLUCTUATIONS MORE THAN ‘EXCESSIVE’

Is 32% drop in coffee prices in 6 month ‘normal’ or ‘excessive’? Is 85% rise in cocoa prices in 2 months OK? Most farmers were probably rejoicing when it happened, but is it good for the longer term? It certainly softened the blow of a 60% drop in prices between May 1998 and December 1999.

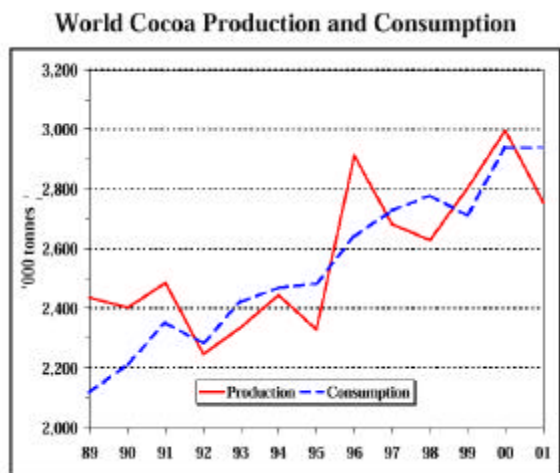
Prices of other commodities are equally volatile: sugar went up by 84% in just 4 month (March to August 2000), rubber (Singapore contract) 62% down in 5 months (March to August 1998) and 64% up in another 6 month (August to November 1999).



Source: Future Source, Bridge News

This kind of volatility may present profit opportunities to the speculators and option pricing models specialist but certainly brings more tears than smiles to a small farmer.

BOOM AND BOOST PRODUCTION CYCLE



Source: EDF Man Cocoa Report

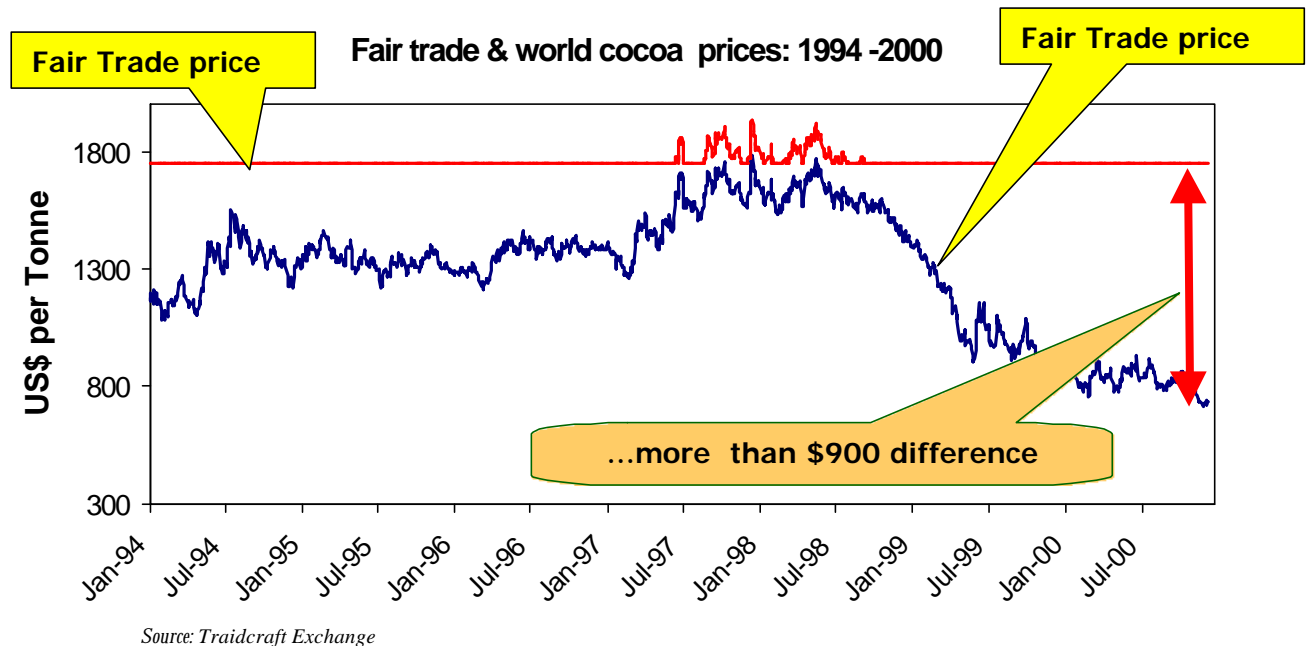
Current prices are the base for decisions about future years’ plantings and trees don’t grow as fast as prices. It takes at least 3 years for a coffee plant to reach its maturity and 5 years for the cocoa tree. Instability in prices leads inevitably to a boom and bust cycle in production as illustrated on this graph for cocoa.

It is of vital importance particularly to smaller growers to reduce this huge price volatility, as it can be equally devastating for them like a hurricane or a hailstorm.

What are the chance of achieving that?

FAIR TRADE – STABILITY AT LAST?

Some 20 years ago an idea of the Fair Trade was born. Decent prices for farmers and decent wages for their workers. No fluctuations. Prices always covering the cost of production and also carrying a useful extra – a ‘social premium’. For many farmers it worked well and number of Fair Trade organisations grew rapidly. Cocoa plantators were especially lucky and got better than the fair deal as demonstrated below.



This graph looks almost too good to be true. Is this price discrepancy sustainable? Why not everyone is doing it? How long can it last?

In some cases the importer can offload this price differential on the consumer of the final product. In case of cocoa most of it goes straight into chocolate, which carries huge luxury premium. Even in the high-in-cocoa solids chocolate the price of cocoa accounts only for some 7% of the total price¹. In case of other commodities particularly the industrial ones it is not easy to find space for financing this kind of difference.

Fair Trade labelling system (which is the ‘passport’ to charging higher retail prices) currently covers only 7 commodities, mostly going to a direct end-user consumption: coffee, cocoa, tea, honey, sugar, orange juice and bananas². Products like rubber or palm oil are not covered.

In spite of the substantial growth of the Fair Trade sector it is still very limited. One of the factors limiting its growth might be the consumer behavior: while the ‘organic produce explosion’ was fuelled by the egoistic reason (‘I buy it because it is good for me’) paying a higher price for the Fair Trade produce requires altruistic reasons (‘I buy it because it is good for others’).

¹ Source: Green and Blacks’ Ltd, manufacturers of a luxury Fair Trade chocolate

² Source: Traidcraft Exchange, FLO

The numbers speak for themselves: according to a report³ published by Sources: ICCO, ICO, European Fair Trade Association the overall volume of the Fair Trade in the 18 countries of Europe is around €370 million at most. This is measured by the retail value of sales and includes all fair trade products including handicrafts, furniture etc. The figure for foodstuffs is closer to €200 million at most. The very same report puts the market share of Fair Trade Coffee at 0.1% to 3.3%. These figures compare to the estimated value of the worldwide cocoa market of some USD 3 billion and 7.5 billion for coffee. Fair Trade system is good for farmers and consumers, but it has a limited scope. It is a drop in the ocean.

Some encouragement can be taken however from the phenomenal success of the Fair Trade bananas in Switzerland where have a 15% market share.

So, if the Fair Trade system, which seems to be ideal for the small farmer, has a limited scope for growth what are the other solutions to the problem of excessive price fluctuations?

HEDGING – THE HOLY GRAIL OF STABLE REVENUE?

Commodity hedging is certainly one of the ways and I shall concentrate on this tool for the rest of my speech.

The word ‘hedge’ (short for hedgerow) literally means ‘the fence’ – you grow it around your field to protect your crop against the elements, trespassers and other dangers. Another words to fence off the risks to your crop. In more modern language ‘hedging’ means using financial instruments like futures and options to protect against adverse price or exchange rate movements.

Commodity hedging means using futures and options contracts traded on recognised commodity exchanges to protect the price of the physical goods produced, traded, or consumed by the hedger. It is widespread in non-ferrous and precious metals industry (hard commodities) and slightly less in the agricultural products sector (**soft commodities** or ‘softs’).

To take advantage of the hedging mechanism the hedger has to find:

- the exchange trading his particular commodity;
- the broker trading at this exchange;
- access to the market information;
- some funds or guarantees to cover margins (to be explained later).

WHERE AND WHAT TO HEDGE

There are some 25 major international exchanges trading futures and options contracts covering agricultural products. The most important ones are LIFFE in London, the exchanges run by the New York Board of Trade (NYBOT, CSCE, NYCE, NYFE, FINEX), CBOT in Chicago, TOCOM in Tokyo, KLOFFE in Kuala Lumpur, SICOM in Singapore, COMMEEX in Malaysia and many others (see Appendix A for more details).

³ *Fair Trade in Europe 2001. Facts and Figures on the Fair Trade sector in 18 European countries, EFTA, 2001*

Between them they run contracts covering some 100 agricultural commodities from Azuki beans and barley to tallow and wool, coffee, cocoa, sugar, rubber and palm oil included. In many cases there are multiple contracts covering different varieties of the same commodity (e.g. 4 types of coffee, 2 types of cocoa, 6 types of sugar, etc). The most popular soft commodities tradable on international exchanges are shown in the Appendix 2.

Each exchange contract is quite specific: it describes some detail the product traded, the minimum trading quantity (the lot, or contract), the minimum price movement, the delivery points and crucially at what future date the delivery can take place. This can be from 2 to 18 months forward (in case of London Metal Exchange event up to 27 months forward). It also allows or not for the cash settlement instead of delivery.

Contracts which **have to** result in a physical delivery to the designated warehouse are called *forwards* (comparatively rare) while the ones which can be settled financially are called *futures* (most common). Sample contract specifications are shown in Appendix C.

In spite of contract specifications for gold and rubber for example are quite different the principles of hedging remain the same. The time and scope of this paper do not allow to go into the very fine detail of all commodities futures the audience might be interested in, so I'll run an example of coffee hedging trying to stress the general principles applicable to other commodities as well.

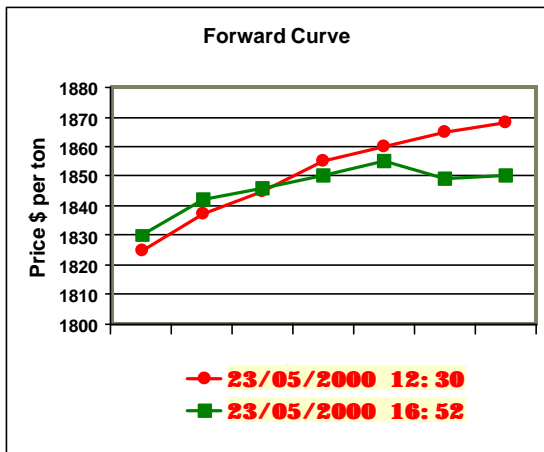
FORWARD CURVE

Absolutely crucial to understanding the principles of hedging is the concept of the forward curve and the matrix of prices.

Let's assume that Mr Kim and Mr Smith agree a price for delivery in 3 month time (e.g. July). Each party uses its best market knowledge to work out what would be the best price for that period. A \$1000 price is agreed and the contract becomes firm. The next day some important news breaks out (e.g. the new fiscal policy of the government) which makes the markets nervous and leads the traders to believe that the appropriate price for July should be \$1200. Another two parties (Mr Cheng and Mr Brown) agree another contract for July delivery at \$1200. But the \$1000 in Kim-Smith's contract remains, because it is a firm contract.

This example demonstrates that any price quoted for a futures contract has a very short life – in busy markets it may only 'live' a few minutes. But once captured in a contract becomes firm. So during a trading day numerous different prices are quoted for deliveries around the same time (July in this example).

Similarly during a single trading day prices are quoted for different delivery periods in future (e.g. August, September etc). A graphical representation of prices quoted at any one time for all available future delivery dates is called a *forward curve*. It reflects the current view of the market on the future supply/demand situation. It is not a forecast!

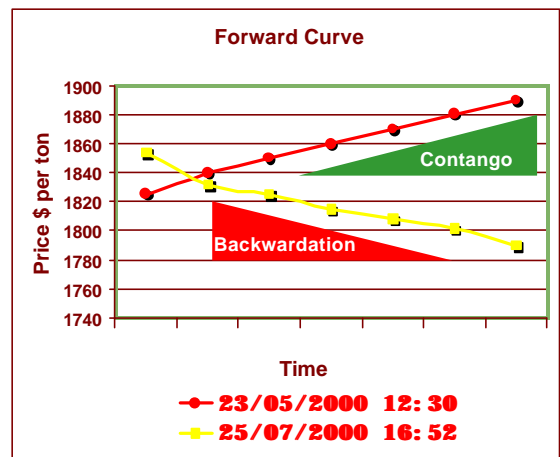


In theory if there is a price quoted for each month up to 18 month forward and prices change every 5 minutes in a 24 hour market (exchange hours plus office-to-office telephone trading) this could give rise to over 5000 prices in a trading day! You can plot plenty of forward curves with these!

During a trading day many forward curves can be plotted as the price matrix fluctuates. This is illustrated in a graph on the left.

If the prices for different future dates move at different ‘speeds’ the curve changes its shape. It may go ‘uphill’ or ‘downhill’ as illustrated in the graph on the right.

If the nearby dates prices are lower than more distant dates prices, the market is in *contango*. If the reverse is the case, the market is in *backwardation*. Hedging in contango is mentally easier for producers because the price ‘captured’ in the futures contract is higher than the current cash price (for immediate delivery). But whatever price ‘captured’ it will not answer the question: “what will the cash price be in 3 months time”? It only answers the question: “what the market thinks today is the fair price for July delivery, based on our best market knowledge today?”



Now, when we understand the price matrix and forward curve we can tackle the very principles of hedging. But first of all why hedge in the first place, what is the objective?

HEDGING OBJECTIVES

- For the producer:
To secure the highest possible price for the metal produced in the future.
 - For the trader/roaster:
To eliminate the risk of price adversely changing between the purchase and the sale. (The actual price level is not important)
 - For the consumer (e.g. a chocolate maker):
To secure the lowest possible price for the commodity to be purchased in the future.
- All these objectives are achieved using the same tools in a slightly different way.

HEDGING TOOLS

- On the Exchange
 - **Futures**
 - **Options**
- Outside the Exchange (OTC –over the counter transactions)
 - Swaps
 - Options
 - Derivatives

Most of the hedging takes place using exchange traded contracts, but it is also possible to enter into a similar transaction with another party, typically an investment bank. The contract has a ‘look and feel’ of the exchange contract, but legally it is not. This group of transactions is called ‘over the counter’ transactions or OTCs for short. They typically involve substantial size and much longer time horizon and are usually associated with financing of some larger project like building a metal mine for example. Unlike the exchange traded contract the OTC transaction can’t be freely traded with many counterparties – you are married to your banker for the life of the contract. From the point of view of the small grower they will probably be totally inappropriate and that is why I will not go to details here.

Hedging tools available at the exchange come in two flavours: futures and options.

- Futures:
 - **Sell forward (short position)**
 - **Buy forward (long position)**
- Options
 - **Put:** right to **Sell** (becomes short when declared)
 - **Call:** right to **Buy** (becomes long when declared)

Like the DNA even the most complex derivatives are built from these 4 simple building blocks!

PRODUCER HEDGING

Hedging principles for producer hedging and trader’s hedging are similar, but applied in a slightly different way. In this paper we’ll concentrate on producer hedging.

The key element for the hedge to work is that the price in the physical sales contract is based on the relevant exchange contract (exchange prices). Another words the physical contract tries to match the exchange price, possibly with some discount or premium.

Hedging with Futures.

In very simplistic terms the producer hedge can be described as follows:

When the exchange quoted price is at the right (attractive) level the producer sells his crop forward in a futures contract. The 'good' price is fixed in this contract. Because this is a futures contract the delivery will only be required at some point in future, so for now nothing happens.

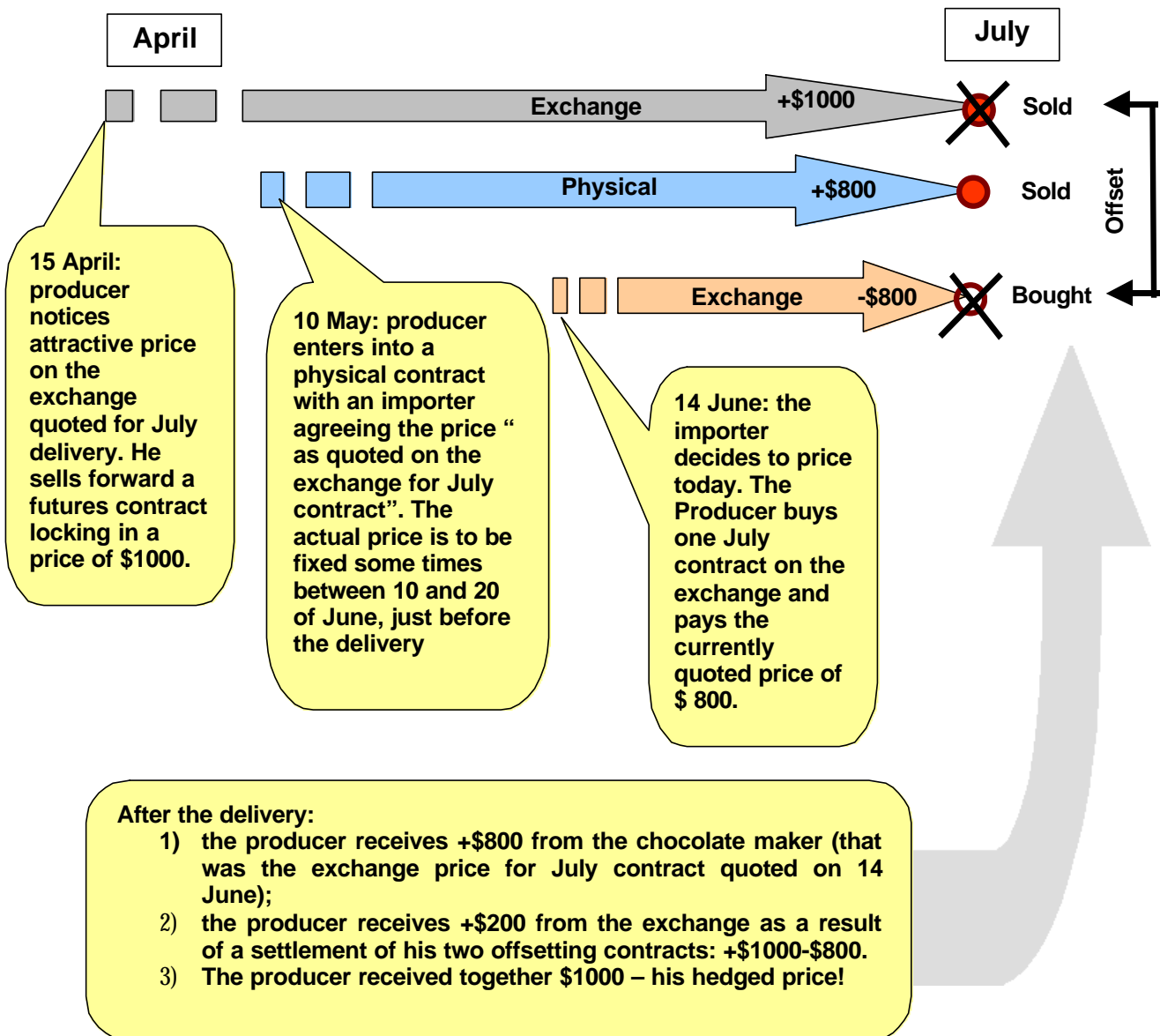
When the time comes the producer sells his crop (again) to a physical buyer (chocolate maker) setting the price in the contract as a reference to some future exchange price rather than fixed currency price. At the moment he sold his crop twice.

When the time comes to price the physical contract (usually shortly before the delivery) the producer does two things at once: agrees the price with his physical buyer and **buys** identical quantity as a future contract on the exchange. The maturity of this futures contract matches his earlier sale to the exchange, but the price is the current exchange price (see above more above price matrix and forward curves). He now has 3 contracts:

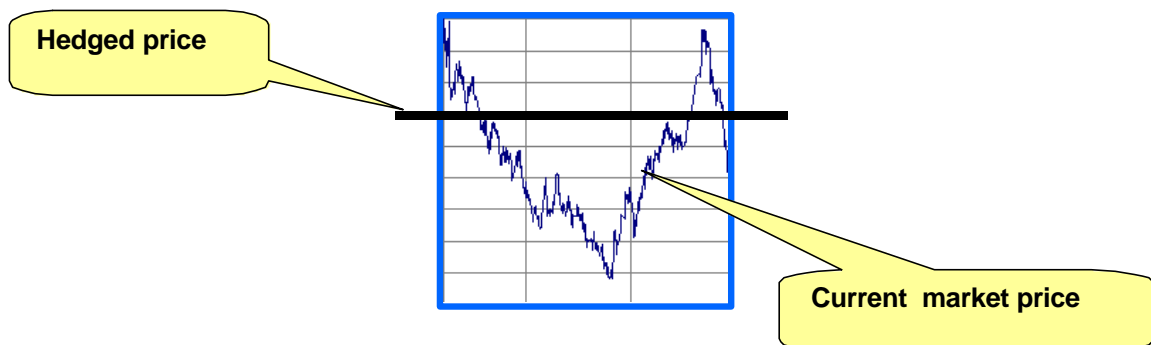
- sold to the exchange
- sold to physical buyer
- bought from the exchange

His delivery obligations in the two exchange contracts offset one another, so he only has the account of price differences with the exchange – a financial settlement. Depending on the price movements between his first and second exchange contract there is a certain sum payable either by the exchange to the producer or vice versa. This is added (subtracted) to the price received from the physical buyer and as a final result the price originally locked in a hedge (the first exchange contract) is realised (minus brokers commissions).

This can be depicted in a simple diagram (more complicated, animated diagram is available during the presentation).



This simple hedging with futures **'locks the hedger into a line'**: no matter how volatile the market is he keeps receiving his hedged price. This is certainly welcomed when the current prices are falling, but in a rising market might give a bad aftertaste of the 'missed upside'. The result of hedging with futures (**selling forward** or **going short**) is shown in the next diagram. (In practice the steady line of the fixed price is made up of many hedging transactions like the one described above).



Hedging with Options

Q: Is there a better way of hedging than with futures?

A: Yes – hedging with options.

Because an option gives the hedger the right to ‘change his mind’, he can always ‘run away’ from his intended futures contract commitment and take advantage of the current better prices.

What is an option?

A right (but not an obligation) to enter into an ordinary future transaction later on terms agreed today.

Put option: a right to sell

Call option: a right to buy

What are the option contract elements?

- A **price** (called a “**strike**”), quantity, and delivery date are agreed beforehand. The deadline when you have to declare your intentions (option declaration [expiry] date) is also agreed.
- You pay a **premium** for your right to make up your mind. This is payable up-front and never recovered, even if you don’t use your option.
- Option styles:
 - **European**– declarable on expiration date.
 - **American** – declarable and settled at any time.
 - **Asian** – the strike price is the average of a period (e.g. month).
- If an option is not declared it expires automatically (nothing happens and the grantor keeps the premium).

How does are the option work?

It is best to explain buying an option by comparing it to entering into a futures contract which is not signed: all elements are agreed beforehand, but the contract is not signed, i.e. cannot come into effect. The parties agree the deadline for ‘signing’ (*option declaration date*). If by that date the contract is still not signed (option **not declared** or **abandoned**), the original paper may well go to the bin – nothing happens, and there is no more any relationship between the parties. If however the option taker **declares it**, then all the pre-agreed parameters of the contract come into effect – in fact the declared **option becomes an ordinary futures contract**. Needless to say that the taker will only declare the option if it suits him i.e. the current market price is ‘worse’ than the one locked in the option (**strike price**).

There is however one major difference between ‘unsigned futures contract’ and an option – the premium. Option taker must pay the option grantor a premium for the privilege of dithering and hesitation (or in the jargon: for the potential of the upside participation). This premium (like an insurance premium) is never returned regardless whether the taker made any use of his option or not. What is more all the premiums have to be paid up-front regardless of how far in the future their declaration dates. And finally the lock a ‘decent’ strike price in the option contract one has to pay quite substantial premium.

Depending on how the strike price relates to the ordinary futures price for the same delivery month it is described as either 'at the money', 'in the money' or 'out of the money'. To confuse issue even more these terms are reversed between the put and call options. In particular:

A **PUT** option is:

- *at the money* when the strike price matches current futures price for the same delivery month;
- *in the money* when the strike price is above the current futures price for the same delivery month;
- *out of the money* when the strike price is below the current futures price for the same delivery month;

A **CALL** option is:

- *at the money* when the strike price matches current futures price for the same delivery month;
- *in the money* when the strike price is below the current futures price for the same delivery month;
- *out of the money* when the strike price is above the current futures price for the same delivery month;

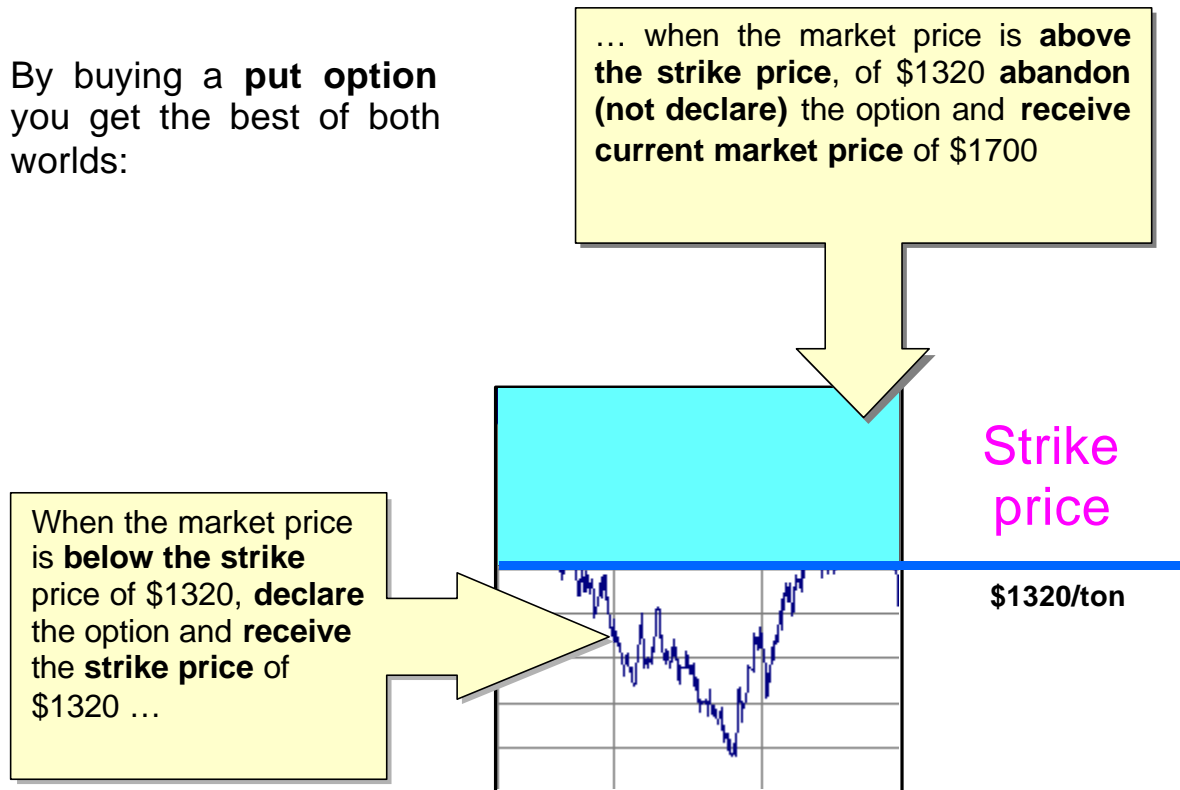
The level of premium paid by the **option taker** to the **grantor** (also called the **option writer**) is subject to supply and demand and also depends on:

- how much in or out of the money the strike price is;
- how far forward the declaration/maturity is;
- what is the historical volatility of price of this commodity.

Many producers are buying cheap, 'out of the money' puts as a disaster protection.

How a **PUT option** works for the producer:

By buying a **put option** you get the best of both worlds:



... guaranteed floor (you will never get less than the strike), and an unlimited upside... but, an option with a “decent” strike price can cost a hefty premium.

Real life example: if the futures contract for cocoa for July delivery trades at \$990/tonne the producer willing to buy a put option for the same period with a strike price of \$900 (out of the money put) would have to pay around \$25 in premium.

In a similar way the **CALL** option works for the consumer/buyer of commodity (this time the strike price protect the ‘**ceiling**’ rather than a ‘**floor**’ – the consumer will never pay more than a strike).

The two options can be combined simultaneously (covering the same tonnage and time horizon) creating the **simplest derivative** product – a **min-max** (also known as a **collar**). In this case the hedger will **receive a premium for selling the CALL** option and will **pay the premium for buying the PUT** option. Depending on the strike prices chosen he may even end up paying nothing for his PUT (in case the premium for CALL is equal to the premium for PUT). This is known as a **costless collar**. Even if the PUT is more expensive than CALL the hedger will acquire some **upside participation** at a reduced cost compared to buying a straight PUT.

How a **CALL option** works for the consumer:

By buying a **call option** you get the best of both worlds:

When the market price is **above the strike price** of \$1320, **declare the option** and **receive the strike price** of \$1320 ...

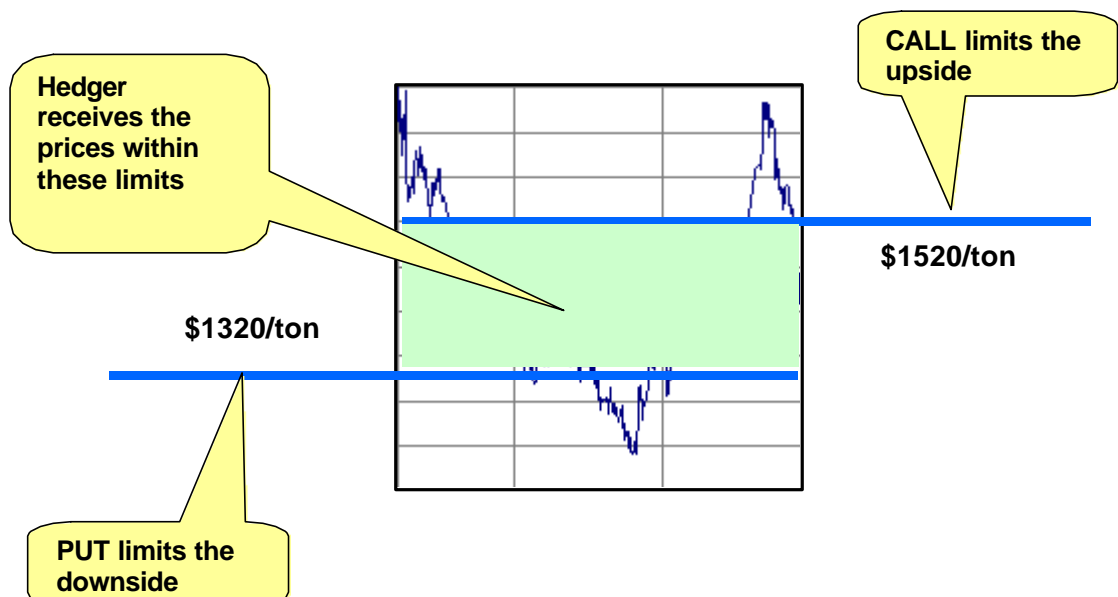
... when the market price is **below the strike price**, of \$1320 **abandon (not declare)** the option and **receive current market price** of \$1000



Strike price

\$1320/ton

A **Min-Max derivative** product creates a collar limiting both the upside and the downside



Hedger receives the prices within these limits

CALL limits the upside

\$1320/ton

\$1520/ton

PUT limits the downside

The min max is the simplest derivative product. Banks specialising in this type of services can create quite complex structures when the same tonnage is sold and bought many times over.

The four main building blocks of derivatives: a short position (sold), a long position (bought), PUT and CALL options are known in the jargon as '**plain vanilla**' products (not only for agriculture commodities) while their more complex cousins as '**exotics**'.

Some exchange trade 'plain vanilla' options, mirroring their future contracts, but for more exotic derivatives the hedger has to go to a specialised bank or broker.

Dealing in derivatives requires quite substantial knowledge and skill and in my view is not recommended for small growers, but when used with skill as a part of well thought hedging strategy they too can bring real benefits: many gold companies for example managed successfully not only to smooth the fluctuations of the market price (by use of derivatives), but also achieve prices higher than the market, even in the long term.

PRACTICALITIES OF HEDGING

As said earlier hedging requires an access to the exchange via a broker, some market knowledge and information and some cash reserves or guarantee for margin calls.

Margin calls

Let's spend a few minutes on margin calls. What are they?

As we have seen in an ordinary futures contract example at the end of the transaction(s) there is a financial settlement: money flows from the exchange to the hedger or vice versa. Exchange brokers have many clients and it may happen that at a particular time most of them will owe money to the broker. The broker has to protect himself from customers defaulting on their obligations.

Every day after entering into the futures transaction with a client the broker compares the price locked in the futures contract with the current market price for the relevant delivery period. If the result of this comparison means that (hypothetically) that the client would owe money to a broker had the transaction been closed today, the broker calls client for a margin – a down payment to be finally settled when the transaction is closed (so called **mark-to-market valuation**).

If the next day the situation changes (due to constantly changing current exchange prices) and this time the broker would owe money to client, the broker returns the margin taken yesterday.

It would not be practical to pass the money back and forth every day (though the banks would encourage it to get more the transfer charges) and therefore brokers usually grant their clients **credit limits**. As long as the margin payable doesn't exceed this credit limit there is no need to pay. Once it is exceeded only the excess amount is payable.

Margins come in two varieties:

- initial margins
- variation margins

The one described above was a variation margin. Initial margin is set by the exchange and is usually related to the number of lots traded rather than the value of the contract. It is typically around \$500 per lot.

Depending on the arrangements between the broker and the client there might be two separate credit limits for initial and variation margins or just one combined limit.

The nasty thing about margins is that they are payable immediately the situation arises and might be quite unexpected. Because they are returnable (at worst settled as part of the final settlement when transaction is closed) they do not impact the Profit and Loss account. Equally while the money is locked away in a broker's safe it earns interest for the client.

Margin calls may kill your cash flow though. They come in the most unexpected way when the markets swing wildly (remember: they are the result of mark-to-market valuation) and you never know for how long your money is going to be 'locked away' – it might be just one day, but it might be weeks if not months if your exchange position has a long maturity date.

Underestimating the impact of margin calls on the financial health of your business is the most common mistake made by hedgers. In 1999 margin calls and associated cash flow problems almost bankrupted one of the largest gold producers – Ashanti of Ghana.

Brokers commissions

Brokers charge commission for their services, usually between 1/8 and 1/16 of a percentage of the contract value. These are payable at final settlement. The commissions are usually insignificant compared with the gains the hedging can bring, but have to be taken into account when calculating the final result.

Credit limits

Credit limits discussed above are set arbitrarily by the brokers depending on their assessment of the credit risk of a client. When in doubt brokers may ask for a collateral or a bank guarantee. In case of the foreign clients the brokers would also look at the country risk, currency risk (of that country)⁴ and other factors which may impact the probability of clients default.

So it is worth remembering.

⁴ The exchange contract currency might be e.g. US dollar, but the local currency will be assessed as well in the context of its impact on the clients business.

Access to information

In its simplest forms it means knowing what is the current price trading on the exchange. But there is more to it. There are a tell-tale signs of prices about to make a u-turn, physical movements of goods impacting price, fiscal and duty regulations in various countries around the globe changing, weather conditions likely to affect crops. All these should be taken into account while making decisions about hedging. The information could be gathered from the variety of sources: Reuters or other electronic information service, newspapers, and increasingly the Internet. Nothing however compares with a good chat with your knowledgeable broker. The trouble is they spend most of their time chatting to their largest clients and not the small producer.

Physical delivery

In most cases the exchange allows for a physical delivery against your short position, so if you have hedged, but found no physical buyer yet you can deliver to the exchange warehouse. Your produce must meet the exchange contract specifications and be properly certified by the exchange approved body. Bear in mind though, that the exchange approved warehouse might be in a remote place like Rotterdam or Bremen and it may not be practical to ship your few tons there.

More than 95% of exchange contract transactions are closed 'on paper' with the opposite futures transaction, where only the financial settlement is payable and only about 5% is closed with the physical delivery of goods to the exchange approved warehouse. (Percentages vary depending on the commodity and the exchange).

For a delivery to the warehouse you must produce (or buy) the commodity meeting the contract specification, but 'just for hedging' (when you know for sure that you will close with the opposite futures contract) you can produce a crop not conforming to these specs. The only condition to be met for the hedge to work is that **the price in your physical contract is based on the relevant futures contract.**

Decision matrix

If today is April and the expected production and shipment is in November the hedger has the whole 6 months to do his hedge. When is the right moment to do so? There are more questions to be answered:

- Which products? (crop only, or also, the currency exchange rates, etc).
- How much? (% of production, or turnover, if trader).
- How far forward? (consider cash flow and margin call issues).
- With what tools? (straight futures options, derivatives – what types).
- With whom? (the exchange broker or OTC bank).
- At what price levels? (swap price, floor and ceilings with options).
- When? (once a year? several times a year? continuously?).
- Passive or active hedge? (Leave till maturity or cash on opportunities as they arise? [Volatility harvesting, oscillators]).
- At what cost? (option premiums, brokers' commissions).
- To deliver or not to deliver?

HEDGING FOR A SMALL GROWER

Knowing what we know now about hedging let's pretend we are a small grower wanting to use these financial instruments and see what hurdles he must overcome to achieve this.

1) Have enough produce to hedge.

Minimum quantity which can be hedged is 1 lot. On London's LIFFE exchange it means 10 tonnes of cocoa, 5 tonnes of coffee and 50 tonnes of sugar. It means 20 tonnes of rubber on SICOM and 5 tonnes on TOCOM. For the crude palm oil on COMMEEX the minimum quantity is 25 tonnes.

2) Find a broker.

Brokers naturally look for larger clients like investment funds. In case of cocoa they bring 30-40% of the futures business. A head of commodities at ENRON (who recently took over Rudolf Wolf – a brokerage with 100 years of history) told me that they will consider opening an account for a client who would trade 500 to 1000 lots per annum to begin with. This is 5000 ton of coffee. They would be much happier if a client had the average turnover of 10,000 per year. Other things the broker would look at will be the credit worthiness of a client, profitability of his business, his assets. Currency and country risk are also an issue. “We would love to have more client from the South-East Asia, but the country risk ratings are preventing us from it” told me an experienced marketer from Fimat – a commodity Brokerage arm of the Société Générale Bank.

3) Have cash

Margin calls were discussed at some length above. Most farmers would have difficulty finding cash or collateral to pay margins. In case of the London or New York broker margin money would have to be transferred abroad, which may require special permissions (due to the currency laws of the country) and the transfer itself triggers bank charges and possibly foreign exchange exposure. Usually the limited asset base of small growers would mean tiny credit limits and therefore heightened likelihood of margin calls.

4) Have the knowledge

It is not just about the access to the information, but how to make sense of it. The need of education about hedging is paramount. Quite often this should start with the basics of the need to keep to the signed contracts. I have heard the horror stories from the soft commodity brokers about hedgers entering into a futures contract to fix the price and then not honoring their obligations when the market rallied. “We have a contract? What contract?” Most brokers wouldn't entertain the idea of going to the courts and all the legal expense to recover 20 or 30 thousand pounds. They will just not deal with this type of a client in the future.

5) Try to deliver.

In theory the exchange warehouse is the last resort if no physical buyer is found. But this might be in a far way place which makes a physical delivery a costly logistical nightmare.

6) Have a friendly tax inspector.

Tax systems in various countries treat hedging expenses (e.g. option premiums, margin payments, settlement difference accounts) in different ways. In many cases they just don't know how to approach it. In the worst case scenario they treat any payments to the exchange as speculative losses (not allowable as cost for the tax purposes) and any income from the exchange dealings as extraordinary (taxable!) profits. Flawed tax laws can easily wipe out the benefits of hedging.

Quite a few hurdles, in fact a stone wall difficult to scale.

REMOVING BARRIERS

Who will come to the rescue of the small grower?

First of all some aggregation of volumes is required, so the volumes are suitable for hedging.

This can be done by cooperatives, possibly Fair Trade organisations or maybe some yet-to-be-created bodies. Its is already being done by the traders – the middlemen and the roasters, and yes, they do hedge, but they keep most of the hedging profits to themselves.

Exchange brokers would look more favourably on a potential client with better credit rating than a small grower. Maybe a Fair Trade organisation in their own country? Maybe a governmental organisation prepared to pay up if the farmers default on their margin or settlement payments?

Is the Internet trading the answer? Possibly, and there are more and more commodity trading sites, but how many small growers in the developing countries have the Internet access? How computer literate are they? The Internet doesn't resolve the basic problem of margins. Cash flows and collaterals. It is just another medium, but may be helpful in fulfilling the aggregation function.

Should 'ethical banks' and 'ethical investment funds' step in with a helping hand? One of the better known 'ethical banks' in Britain – The Cooperative Bank is offering interest rate protection, but is definitely not interested in commodity hedging.

What should the governments and international financial organisations do? Provide access to education and information? Provide system of guarantees for farmers which could be used as collaterals with brokers?

As far as know the World Bank was recently conducting a study trying to find answers to these questions, but I am not familiar with the outcome.

CONCLUSIONS

Hedging using futures and options is a useful tool in short and medium term protection of the producers revenue. It has proven its merits for many producers and traders both in the hard and soft commodities sectors.

Hedging principles are simple, but it requires some education and practice to implement them successfully as a hedging strategy.

Small producers face a lot of barriers preventing them from successful use of hedging as a price protection tool.

Traditional commodity brokers are not keen to have small growers as their clients due to small volumes and default risk involved.

A new, ethical intermediary is needed, who would aggregate tonnages required for successful hedging provide minimum-risk comfort to the brokerage community and pass on the benefits of hedging to the farmers concerned.

In my view this role at some point might be played by the Fair Trade organisations and companies. They are already moving from the pure trade into financial services by providing trade finance (export pre-financing). They could in the future provide this service to the small growers, but they would be taking on themselves risks which traditional brokers are trying to avoid.

Some form of government or World Bank/IMF sponsored guarantee programme could help. Its application directly to small farmers might be difficult, but its should be easier if it was addressed to the fair trade organisations.

Appendix A

Major International Exchanges trading agricultural commodities futures and options.

Beijing Commodity Exchange (BCE)
Bolsa de Mercadorias & Futuros (BM&F)
Budapest Commodity Exchange
Chicago Board of Trade (CBOT, MIDAM)
Chicago Board Options Exchange (CBOE)
Chicago Mercantile Exchange (CME, IMM, IOM)
Chuba Commodity Exchange (C-COM)
Commodity and Monetary Exchange of Malaysia (COMMEX)
GLOBEX
International Petroleum Exchange (IPE)
Kansai Commodities Exchange (KANEX)
Kansas City Board of Trade (KCBT)
Kuala Lumpur Options & Financial Futures Exchange
(KLOFFE)
London International Financial Futures and Options Exchange
(LIFFE)
Minneapolis Grain Exchange (MGE)
New York Board of Trade (NYBOT, CSCE, NYCE, NYFE,
FINEX)
New York Mercantile Exchange (NYMEX/COMEX)
Osaka Mercantile Exchange (OME)
Singapore Commodity Exchange Ltd. (SICOM)
Singapore Exchange Ltd. (SGX)
The Commodity Futures Exchange of Hainan
Tokyo Commodity Exchange (TOCOM)
Tokyo Grain Exchange (TGE)
Winnipeg Commodity Exchange (WCE)
Yokohama Commodity Exchange (YCE)

Source: Bridge/CRB

Appendix B

Selection of agricultural commodities which can be traded as futures and options contracts on commodity exchanges.

Description of months traded:

January	F
February	G
March	H
April	J
May	K
June	M
July	N
August	Q
September	U
October	V
November	X
December	Z
Cash	Y

SYMBOL	FUTURES/CASH DESCRIPTION	EXCHANGE	MONTHS TRADED
YZ	Azuki Beans	TGE	F-Z
24	Barley / Malting, Top Quality	NA	Cash
BB	Barley, EEC	LCE	F,H,K,U,X
WA	Barley, Western / No.1	WCE	G,K,Q,X
8	Bran / Wheat, Middling, Kansas	NA	Cash
2	Butter, AA	CME	Cash
WC	Canola / No. 1	WCE	F,H,M,Q,U,X
LO	Cocoa #7	LCE	F,H,K,N,U,X,Z
CC	Cocoa/Ivory Coast	CSCE	H,K,N,U,Z
26	Coconut Oil / Crude	NA	Cash
YB	Cocoons, Dried	MDCE	F-Z
JC	Coffee / Arabica	TGE	F,H,K,N,U,X
KC	Coffee 'C'/ Colombian	CSCE	H,K,N,U,Z
LD	Coffee, Robusta (USD)	LCE	F,H,K,N,U,X
BK	Coffee/ Brazilian	NA	Cash
XC	Corn	MIDAM	H,K,N,U,Z
C-	Corn / No. 2 Yellow	CBOT	H,K,N,U,Z
C2	Corn / No. 2 Yellow	NA	Cash
70	Corn / No. 3 Yellow, cif Rotterdam	NA	Cash
C7	Corn Gluten Feed	NA	Cash
C9	Corn Oil / Crude Dry Milling	NA	Cash
C8	Corn Oil / Crude Wet Milling	NA	Cash
CY	Corn Yield Insurance, Iowa	CBOT	F,U
CV	Corn, No. 3	TGE	F,H,K,N,U,X

SYMBOL	FUTURES/CASH DESCRIPTION	EXCHANGE	MONTHS TRADED
CI	Cotlook World Index/'A' Index	NYCE	H,K,N,V,Z
YY	Cotton Yarn #20	OTE	F-Z
YV	Cotton Yarn #40	OTE	F-Z
YC	Cotton Yarn #40	TOCOM	F-Z
6	Cotton, 1-1/16"	NA	Cash
7	Cotton, 1-3/32"	NA	Cash
CT	Cotton/1-1/16"	NYCE	H,K,N,V,Z
25	Cottonseed Meal	NA	Cash
27	Cottonseed Oil	NA	Cash
28	Eggs, Large White, Dozen	NA	Cash
WF	Flaxseed / No. 1	WCE	H,K,N,V,Z
29	Flour, Hard Winter Wheat	NA	Cash
30	Hides/Heavy Native Steers	NA	Cash
4	Hominy Feed	NA	Cash
9	Lard	NA	Cash
LB	Lumber/Spruce-Pine Fir 2x4	CME	F,H,K,N,U,X
DE	Milk	CME	G,J,M,N,U,Z
IK	Milk, BFP	CSCE	F-Z
LM	Milk, BFP, Large Lot	CSCE	F-Z
DL	Milk, Class IV	CME	F-Z
XO	Oats	MIDAM	H,K,N,U,Z
WO	Oats	WCE	H,K,N,V,Z
OA	Oats / No. 2 Milling	MGE	H,K,N,U,Z
O-	Oats / White Heavy	CBOT	H,K,N,U,Z
OD	Orange Juice DIFF, Frozen Concentrate	CSCE	F,H,K,N,U,X
JO	Orange Juice, Frozen Concentrate	NYCE	F,H,K,N,U,X
KP	Palm Oil	KLCE	F-Z
31	Palm Oil / Refined, Bleached	NA	Cash
71	Palm Oil, Crude / cif N.W. Europe	NA	Cash
WQ	Peas, Field	WCE	G,K,N,V,Z
FP	Potatoes	LCE	H,J,K,M,X
PO	Potatoes, Bintje 50mm	ATA	G,H,J,K,M,X
75	Rape Oil / Dutch, fob ex-mill	NA	Cash
ME	Rapeseed	MATIF	G,K,Q,X
12	Rosin Gum/Pine Oil, 80% Alcohol	NA	Cash
RR	Rough Rice No. 2	CBOT	F,H,K,N,U,X
YR	Rubber #3	TOCOM	F-Z
JI	Rubber Index	OME	F-Z
JR	Rubber, Natural	OME	F-Z

SYMBOL	FUTURES/CASH DESCRIPTION	EXCHANGE	MONTHS TRADED
13	Rubber/Ribbed Smoked Sheets	NA	Cash
JK	Silk, International Raw	YCE	F-Z
14	Sorghum/(Milo) No. 2	NA	Cash
XE	Soybean Meal	MIDAM	F,H,K,N,Q,U,V,Z
72	Soybean Meal / 44-45% protein, fob ex-mill	NA	Cash
SM	Soybean Meal / 48% Protein	CBOT	F,H,K,N,Q,U,V,Z
XR	Soybean Oil	MIDAM	F,H,K,N,Q,U,V,Z
BO	Soybean Oil / Crude	CBOT	F,H,K,N,Q,U,V,Z
74	Soybean Oil / Dutch, fob ex-mill	NA	Cash
XS	Soybeans	MIDAM	F,H,K,N,Q,U,X
GT	Soybeans	TGE	G,J,M,Q,V,Z
S-	Soybeans / No. 1 Yellow	CBOT	F,H,K,N,Q,U,X
76	Soybeans / U.S., cif Rotterdam	NA	Cash
YM	Soybeans, IOM	TGE	G,J,M,Q,V,Z
SB	Sugar #11/World Raw	CSCE	H,K,N,V
SE	Sugar #14/Domestic Raw	CSCE	F,H,K,N,U,X
LW	Sugar #5, White	LCE	H,K,Q,V,Z
LS	Sugar #7, Raw	LCE	F,H,K,N,V
TG	Sugar, Raw	TGE	F,H,K,N,U,X
WS	Sugar, White	CSCE	F,H,K,N,U,X
73	Sun Oil / any origin, ex-tank, Rotterdam	NA	Cash
18	Tallow/Bleachable	NA	Cash
19	Tallow/Edible	NA	Cash
XW	Wheat	MIDAM	H,K,N,U,Z
KW	Wheat / No. 2 Hard Winter	KCBT	H,K,N,U,Z
W-	Wheat / No. 2 Soft Red	CBOT	H,K,N,U,Z
77	Wheat / No. 2, 14% protein, cif Rotterdam	NA	Cash
MW	Wheat / Spring 14% Protein	MGE	H,K,N,U,Z
WW	Wheat, Domestic Feed/No. 3	WCE	H,K,N,V,X,Z
WD	Wheat, Durum	MGE	H,K,N,U,Z
FW	Wheat, EC	FOX	F,H,K,M,U,Z
MH	Wheat, Milling	MATIF	F,H,K,U,X
NW	Wheat, Soft White	MGE	H,K,N,U,Z
22	Wool Tops	NA	Cash
21	Wool, 64's, Staple, Terr. Del.	NA	Cash
WL	Wool, Broad	SFE	G,J,M,Q,V,Z
DW	Wool, Fine	SFE	G,J,M,Q,V,Z
GW	Wool, Greasy	SFE	G,J,M,Q,V,Z

Appendix C

Sample specifications of futures and options contracts in soft commodities.

LIFFE Exchange, London



Cocoa Future

Unit of trading	10 tonnes.
Delivery months	March, May, July, September, December, such that ten delivery months are available for trading.
Delivery units¹	Standard Delivery Unit – bagged cocoa with a nominal net weight of 10 tonnes.

Large Delivery Unit – bagged cocoa with a nominal net weight of 100 tonnes.

Bulk Delivery Unit – loose cocoa with a nominal net weight of 1000 tonnes.

Last trading day	Eleven business days immediately prior to the last business day of the delivery month at 12.00.
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Notice day/Tender day The business day immediately following the last trading day

Price basis²	Pounds sterling per tonne in an Exchange Nominated Warehouse in a Delivery Area which is, in the Board's opinion, in or sufficiently close to Amsterdam, Antwerp, Bremen, Brighton and Hove, Dunkirk, Felixstowe, Hamburg, Humberside, Liverpool, London, Rotterdam or Teeside ³ .
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Minimum price movement (Tick size & value)	£1 per tonne (£10).
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LIFFE CONNECT™ 09.30 - 16.50
Trading hours

Origins tenderable	Cameroon, Côte d'Ivoire, Democratic Republic of Congo (formerly know as Zaire), Equatorial Guinea, Ghana, Grenada Fine Estates, Jamaica, Nigeria, Sierra Leone, Togo, Trinidad and Tobago Plantation, Western Samoa at contract price. All other growths tenderable at set discounts.
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¹ Where necessary upon tender, a seller may be instructed by the Clearing House to convert a Bulk Delivery Unit into a Large and/or Standard Delivery Units, or a Large Delivery Unit into Standard Delivery Units.

² Bulk Delivery Units are tenderable at a discount of £20 per tonne to the contract price.

³ Contact the Exchange to determine which Delivery Areas have Dual Capacity Warehousekeepers (i.e. those nominated for the storage of Bulk Delivery Units as well as Standard and Large Delivery Units).

Unless otherwise indicated, all times are London times.

LIFFE Exchange, London



Option on Cocoa Future

Unit of trading One Cocoa futures contract.

Expiry months March, May, July, September, December, such that ten expiry months are available for trading, subject to the option expiring before the underlying future.

Expiry day 12.00 on the last trading day of the calendar month preceding the expiry month.

Price basis Pounds sterling per tonne.

Minimum price movement £1 per tonne (£10).
(Tick size & value)

LIFFE CONNECT™ Trading hours 09.32 - 16.50

Strike price increments £25 per tonne.

Option Price: The contract price is not paid at the time of purchase. Option positions, as with futures positions, are marked-to-market daily giving rise to positive or negative variation margin flows. If an option is exercised by the Buyer, the Buyer is required to pay the original contract price to the Clearing House and the Clearing House will pay the original option price to the Seller on the following business day. Such payments will be netted against the variation margin balances of Buyer and Seller by the Clearing House.

Unless otherwise indicated, all times are London times.

LIFFE Exchange, London



Robusta Coffee Future

Unit of trading	5 tonnes.
Delivery months	January, March, May, July, September, November, such that seven delivery months are available for trading.
Last trading day	Last business day of the delivery month at 12.30.
Tender period	Any business day during the delivery month.
Price basis	US dollars per tonne in an Exchange Nominated Warehouse in London and the UK Home Counties, or in a Nominated Warehouse in, or in the Board's opinion, sufficiently close to Amsterdam, Antwerp, Barcelona, Bremen, Felixstowe, Hamburg, Le Havre, Marseilles-Fos, New Orleans, New York, Rotterdam and Trieste.
Minimum price movement (Tick size & value)	\$1 per tonne (\$5).
LIFFE CONNECT™	09.40 - 16.55
Trading hours	
Origins tenderable	Angola, Brazilian Conillon, Cameroon, Central African Republic, Côte d'Ivoire, Democratic Republic of Congo (formerly known as Zaire), Ecuador, Ghana, Guinea, India, Indonesia, Liberia, Malagasy Republic, Nigeria, Philippines, Sierra Leone, Tanzania, Thailand, Togo, Trinidad, Uganda and Vietnam.

Unless otherwise indicated, all times are London times.

LIFFE Exchange, London



Option on Robusta Coffee Future

Unit of trading	One Robusta Coffee futures contract.
Expiry months	January, March, May, July, September, November, such that seven expiry months are available for trading, subject to the option expiring before the underlying future.
Expiry day	12.30 on the third Wednesday of the calendar month preceding the expiry month.
Price basis	US dollars per tonne.
Minimum price movement (Tick size & value)	\$1 per tonne (\$5).
LIFFE CONNECT™ Trading hours	09.42 - 16.55
Strike price increments	\$50 per tonne.

Option Price: The contract price is not paid at the time of purchase. Option positions, as with futures positions, are marked-to-market daily giving rise to positive or negative variation margin flows. If an option is exercised by the Buyer, the Buyer is required to pay the original contract price to the Clearing House and the Clearing House will pay the original option price to the Seller on the following business day. Such payments will be netted against the variation margin balances of Buyer and Seller by the Clearing House.

Unless otherwise indicated, all times are London times.

LIFFE Exchange, London



White Sugar Future

Unit of trading	50 tonnes.
Delivery months	March, May, August, October, December, such that seven delivery months are available for trading.
Last trading day	Sixteen calendar days preceding the first day of the tender period at 18.20 (if not a business day then the first business day immediately preceding the tender date).
Notice day	Fifteen calendar days preceding the first day of the tender period (if not a business day then the first business day following).
Tender period	Any business day during the specified delivery month and the following month.
Price basis	US dollars and cents per tonne FOB and stowed in vessel's hold at one of the following designated ports: Amsterdam, Antwerp, Bangkok / Kohsichang, Bilbao, Bremen, Buenaventura, Buenos Aires, Cadiz, Calais, Delfzijl, Dunkirk, Durban, Eemshaven, Flushing, Gdansk, Gdynia, Gijon, Guangzhou, Hamburg, Huangpu, Imbituba, Immingham, Inchon, Itajai, Jebel Ali, Laemchabang / Sri Racha, Le Havre, Leixoes, Lisbon, Maceio, Marseilles, Matanzas, Natal, New Orleans, Paranagua, Penang, Port Kelang, Puerto Quetzal, Recife, Rostock, Rotterdam, Rouen, Santander, Santos, Savannah, Shekou, Singapore, Szczecin, Ulsan, Xiamen or Zeebrugge. Freight differentials, as from time-to-time determined and published by the Board, shall apply to any non-European port.
Minimum price	10 cents per tonne (\$5).
Movement (Tick size & value)	

LIFFE CONNECT™ 09.45 - 18.20
Trading hours

Quality White beet or cane crystal sugar or refined sugar of any origin of the crop current at the time of delivery, free running of regular grain size and fair average of the quality of deliveries made from the declared origin from such crop, with minimum polarisation 99.8 degrees, moisture maximum 0.06%, and colour maximum 45 units ICUMSA attenuation index (except that sugar originating in the EU shall satisfy the colour specification set out or referred to in the ASSUC Rules), all at time of delivery to vessel at port.

Unless otherwise indicated, all times are London times.

LIFFE Exchange, London



Option on White Sugar Future

Unit of trading One White Sugar futures contract.

Expiry months March, May, August, October, December, such that seven expiry months are available for trading, subject to the option expiring before the underlying future.

Expiry day 18.20 on the first business day of the calendar month preceding the expiry month.

Price basis US dollars and cents per tonne.

Minimum price movement 5 cents per tonne (\$2.50).
(Tick size & value)

LIFFE CONNECT™ 09.47 - 18.20
Trading hours

Strike price increments \$10 per tonne.

Option Price: The contract price is not paid at the time of purchase. Option positions, as with futures positions, are marked-to-market daily giving rise to positive or negative variation margin flows. If an option is exercised by the Buyer, the Buyer is required to pay the original contract price to the Clearing House and the Clearing House will pay the original option price to the Seller on the following business day. Such payments will be netted against the variation margin balances of Buyer and Seller by the Clearing House.

Unless otherwise indicated, all times are London times.