



Core Group on the Consultative Forum
3rd Meeting
5 March 2013
London, United Kingdom

**Risk and finance in the coffee sector:
Introduction to the joint study by the
ICO and the World Bank**

Background

1. In September 2012, the Core Group agreed that three studies looking at risk and financing in the coffee sector would be developed by the World Bank in collaboration with the ICO. The three studies will be directed at three different audiences: coffee producers, coffee trading enterprises and policy-makers, and will be presented during the 3rd Consultative Forum on Coffee Sector Finance during the week of 9 to 13 September 2013. The Executive Director circulated a concept note about the studies in December 2012, requesting Members to provide assistance and data to the consultants appointed by the World Bank to prepare the studies (see document ED-2146/12).
2. The attached document has been received from the World Bank and outlines the approach being taken to the studies and the likely contents. Annex 1 contains a draft risk matrix which lists risks and issues facing the coffee sector, the potential impact of these and possible mitigation measures. Annex 2 contains a preliminary listing and consideration of financing issues facing coffee sectors and Annex 3 contains an initial list of mechanisms and tools for improving coffee sector finance and regulatory/enabling environment prerequisites and requirements.
3. The World Bank and the ICO would welcome comments and suggestions from Members on both the document and the draft risk matrix contained in Annex 1, either during the meeting of the Core Group on 5 March, or in writing to the Head of Operations **no later than 28 March 2013** (email: galindo@ico.org), to enable suggestions to be considered at a progress review meeting with the World Bank and the ICO in April. Members are also requested to nominate a contact person in their countries for the World Bank consultants to approach for further information, and to inform the ICO about case studies, initiatives, funding schemes and any other relevant information which may be useful to the preparation of the reports, also by **28 March 2013** (email: galindo@ico.org).

Action

The Core Group is invited to consider this document and all Members are invited to send comments to the ICO in writing by **28 March 2013**.

Joint Study



RISK AND FINANCE IN THE COFFEE SECTOR

INTRODUCTION TO THE JOINT STUDY BY THE
INTERNATIONAL COFFEE ORGANIZATION
AND THE WORLD BANK

Briefing note to the March meetings of the
International Coffee Organization (ICO)



THE WORLD BANK



Ministry of Foreign Affairs of the
Netherlands



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra



INTERNATIONAL COFFEE ORGANIZATION

RISK AND FINANCE IN THE COFFEE SECTOR

Introduction to the joint study by the International Coffee Organization and the World Bank

Introduction

The March meetings at the International Coffee Organization offer an excellent opportunity to provide an insight into the approach currently being taken by the contributors to this study and to briefly, but by no means comprehensively, outline the likely contents of the reports. The object of this early stage briefing document is to provide ICO Members with an opportunity to offer comments and suggestions, ahead of the progress review meeting to be held with the ICO Secretariat at the end of March 2013. Therefore, such comments and suggestions should please reach the ICO Secretariat no later than end March 2013. Additionally, it is hoped that by raising awareness of the structure and format of this work, ICO members will be able to provide contributions to the on-going work with regards to data, case studies, and supporting information.

1. Why is this work being done?

As agreed at the September 2012 meeting of the Core Group of the ICO's Consultative Forum on Coffee Sector Finance, the World Bank will work with the ICO and its Members to develop a typology of global best practices on agricultural finance and risk management relevant to the coffee sector. The object of this study therefore is to identify risks at different stages of the value chain; to determine their impact on the availability and the cost of finance; and to propose, to the extent possible, potential remedial measures that could mitigate these risks. This is expected to improve the availability of finance and to reduce the cost thereof because even though there is a direct link between risk and access to finance, often neither potential borrower nor lender really understands the risks that attach to different stages of the coffee value chain. If risk is not properly understood it cannot be mitigated. This is particularly so in situations where an enabling environment (appropriate legislation, regulation, policy, support, information) is lacking. This can lead to the overstating of certain risks and higher finance costs. In addition to addressing the enabling environment, some of the existing barriers to sufficient finance can also be addressed through relatively straightforward measures undertaken by the supply chain actors themselves, for example by extending financial literacy amongst producers or by introducing adequate accounting practices amongst collectors and traders. These reports will therefore consider both improvements in risk management as facilitators of improved access to finance, as well as stand-alone measures for improving such access. In summary the objective of this work is to facilitate a better understanding of risk and of the coffee sector generally, which shall ideally improve the interaction between the different parties along the finance chain.

The study will therefore address three interlinked subjects:

- Types and impact of risk at different stages of the value chain;
- The linkage between these risks and the availability/cost of finance;
- Potential strategies to reduce risk and enhance access to finance;

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The target audience are policy makers and regulators; producers and processors; traders and exporters; and lenders to the coffee sector generally. All of these have both identical and differing concerns, but to address these in a single document would be impractical. Consequently three documents will be produced, dealing with the impact on the availability and cost of finance of: ¹

- Policy and regulation frameworks;
- Different risks at the producer level;
- Different risks at the intermediate or trade level;

Because these documents are intended to be helpful to all three audiences, the style and language will be practical rather than elaborate. The objective is to identify constraints and risks and offer guidance by suggesting potential interventions at all three levels, i.e. policy, production and trade. The expectation is that such interventions will help reduce risk and improve access to finance.

However, there are substantial differences between individual coffee producing countries, with some making enormous progress increasing production, while others have only just stable, or even declining, production despite periods of high prices. There can be little doubt that the sector environment in individual countries plays an important role in this but in order to gauge the impact of the support infrastructure and regulatory framework on individual supply chains, it is essential to understand the structure of the coffee trade. The final reports will therefore include overviews of different trade segments and limited amounts of relevant statistical information. But the types and levels of risks encountered in individual supply chains also vary. Why and to what extent this is so needs examining as well but it does suggest that the appropriateness of potential risk mitigation options, and their expected impact on access to finance in individual countries, will also be different which implies adaptation to local circumstances.

The expectation is that going forward these reports will assist the different target audiences to better understand both the opportunities and the issues around improving access to finance. The Producer Report will address some of the issues lenders may raise up front to help make for more explicit business cases to potential lenders and as such should improve the 'bankability' of coffee producers. Showing that available risk mitigation and management options are understood, and form part of one's general approach to risk management, should assist both borrower and lender.

The Intermediate and Trade Report should assist in a similar vein by enabling funding applicants to demonstrate they understand both the coffee trade and the risks that are peculiar to it, and to put forward practical answers to the inevitable questions any lender will ask.

¹ In addition there will also be an Executive Summary.

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The Strategy Report will assist policy makers to appreciate issues around the coffee sector in more detail, and the impact of policy and regulatory actions. The report will stress the need for well-structured sector strategies that create an enabling and supportive environment for the coffee industry in their country.

Therefore, the end result of the reports will hopefully not just be three volumes listing problems and issues but rather three reference documents of practical use to their respective target audiences.

2. The meaning of risk management

The underlying principle of risk management is that individual risks should first be categorised by potential intensity or severity of impact (negligible, moderate, considerable, critical, catastrophic) and by the frequency or probability of such events occurring (highly probable, probable, occasional, remote, improbable). Combining these two variables (intensity and frequency) will assist policy makers and other stakeholders in determining priorities.

Secondly, risk must then be categorised in terms of how it can be addressed. To illustrate:

- The risk of fraud/theft can be transferred by taking out insurance;
- The risk of run-off erosion can be reduced or mitigated by contouring land;
- One could cope with the risk of wages rising by trying to improve productivity;

To summarize, risk management can be defined as approaching identified risks in terms of how best to deal with them: through transfer, mitigation or by simply living/coping with them as best as possible.

It is sometimes incorrectly assumed that risk management means the elimination of risk but rather, it is an approach that can help reduce or contain the impact of risk but it will almost never eliminate it. A good example is that of “price risk management”: futures markets can be used to protect against coffee prices generally rising or falling, but this still leaves the differential or basis risk unprotected. So the price risk is mitigated (reduced) but not eliminated.²

3. Background

3.1 It is well known that whilst smallholders account for the bulk of world coffee production, they are at the same time also the most exposed to risk and the least able to access affordable finance. Therefore most attention will be given to the production segment. This is reinforced by the fact that conventional lending considerations perceive the highest risks to be at the production and primary processing levels, often resulting in reluctance to lend and the imposition of high borrowing costs. Additionally financiers are

² Differential: the fluctuating difference between the futures price and the domestic price of individual types or origins of coffee.

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often reluctant to deal with individual producers due to the high transactions costs that arise from assessing, disbursing and recovering multiple smaller sized loans. However, as the harvested product progresses through its different stages it becomes more easily identifiable, finance becomes more easily available and borrowing costs decline. Whilst understandable, this mismatch between the needs of producers and the concentration of affordable finance needs addressing.

3.2 As a group, producers particularly smallholders, are also the main risk takers in the coffee value chain.³ In fact small farmers represent a particular brand of entrepreneur whose revenues depend on increasingly volatile climatic conditions and erratic price developments, neither of which they control. They are always at risk because their commitment is medium to long-term but the quantity, quality and value of their output is always variable. Much of their risk cannot easily be quantified, let alone mitigated, resulting in the kind of uncertainty that conventional funding models cannot easily handle. Furthermore, in most instances there is insufficient or no collateral to back any borrowing by producers and, where collateral is available it may be difficult or impossible to realize. Of course individual producers and producer groups sometimes progress upwards along the value chain which helps them gain a certain amount of protection against unfavourable market developments.⁴ And access to finance is facilitated by such producer groups (or other such structures) being able to aggregate their production, borrow as an SME with subsequent disbursement to their members and by being able to produce audited accounts, being able to demonstrate that an operation adds or produces value, and so on. In other words, government programs are not necessarily the only way to improve such access and producers do have opportunities to improve their access to finance. However, the vast majority of producers remain price takers who cannot influence prices in any notable way and as such are limited in their options.⁵

3.3 Risk diminishes and becomes more short term once coffee is harvested and processed: quantity, quality and value can now be determined more accurately. Of course major risks remain but become more easily defined which in turn simplifies risk management. As coffee progresses along the domestic value chain, the periods for which funding is required become progressively shorter, while at the same time the product's collateral status improves and trade finance becomes more easily accessible and cheaper. Of course this presupposes an appropriate enabling environment but, as is known, this is not always the case. Nevertheless, whilst the funding requirements at the intermediary stages (particularly export processing and trading) become progressively higher, the availability of funding is usually higher as well because more of the short term risk can now be quantified and mitigated. This offers financiers much improved opportunities to take realizable collateral against lending made, i.e. in the form of the actual underlying coffee

³ Of course domestic traders also face considerable risk exposure but on a global scale this is more the exception than the rule.

⁴ For example by becoming exporters, joining a sustainability standard or by encouraging domestic demand that may support prices.

⁵ Provided they have the resources they can of course influence their overall returns by improving yield, quality and efficiency.

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which the funding is financing. This is not readily available at the producer level. And unlike producers, processors and traders can operate almost irrespective of whether prices are high or low (although when prices generally are low, margins are usually lower too). From time to time domestic operators can and sometimes have to decline risk by staying on the side-lines. A complicating factor is that foreign operators may benefit from cheaper and more freely available finance, and may have access to risk management instruments not available to their domestic counterparts. Whilst this probably encourages competition at the farm gate it can also lead to distortions that require a review of the financing and risk management options open to domestic players. Improvements in access to finance for domestic trading companies also offer opportunities for such firms to expand their operations by competing more effectively against other market players.

3.4 The perception of risk at the end-user stage is different yet again in that the product is easily traceable and offers reasonable collateral. End-user funding requirements are of course higher but so is the fundraising ability of most actors in this segment. Benefiting from good balance sheets and a nearly always efficient and enabling environment, well-run operations enjoy relatively plentiful and certainly adequate access to finance. However, like producers, roasters also face constant exposure in that they must always be present in the marketplace. But they can manage risks quite effectively and, to a certain extent they are able to respond to changing circumstances by changing their sales prices.

4. Risk and funding at different stages

4.1 Introduction

Value chain calculations show added value rising sharply from farm gate to retail. The table below illustrates not only this but also the fact that fluctuations in the Ex Dock price, in this example average quality washed New York C Arabica, impact much more severely at the farm gate level than they do at the retail level. The value per container quantifies the approximate funding levels at different stages.⁶

Table 1

| Value chain | Ex-Dock at 200 cts/lb | | | Ex dock at 150 cts/lb | | |
|------------------------------|-----------------------|------------------------------|------------------------------------|------------------------------|-----------------|------------------------------------|
| | Value Cts/lb | Value USD MT (rounded) | Value 1 Container 18,000 kgs | Value Cts/lb (rounded) | Value USD MT | Value 1 Container 18,000 kgs |
| Cumulative Value = retail | 511.40 | 11,274 | 202,932 | 417.30 | 9,200 | 165,600 |

⁶ The table is only intended to provide an outline - the final report will contain detailed value chain analyses.

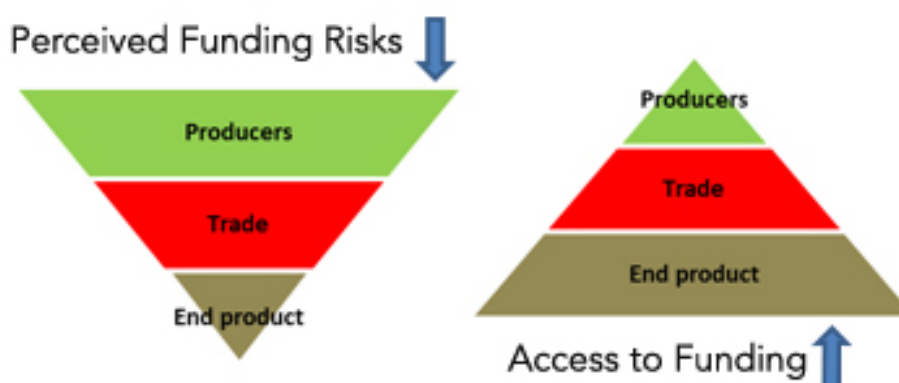
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| | Ex-Dock at 200 cts/lb | | | Ex dock at 150 cts/lb | | |
|------------------------------|-----------------------|-------|--------|-----------------------|-------|--------|
| Equivalent Ex Dock | 200.00 | 4,409 | 79,362 | 150.00 | 3,307 | 59,526 |
| Equivalent Ex Mill | 157.10 | 3,463 | 62,334 | 110.80 | 2,443 | 43,974 |
| Fresh cherry Ex farm gate | 96.25 | 2,122 | 38,196 | 50.00 | 1,102 | 19,836 |

All in Green Bean Equivalent or GBE. Source: ICO data (retail prices) and own calculations.

Based on this, the diagram below is simply an attempt to visualise the comparison between the approximate funding needs at different stages on the one hand, and the generally accepted view that funding at the producer level is the lowest because of the perception that risk there is the highest.



It could also be said that the diagram portrays why traditional commercial bank lending is concentrated at the post-harvest stages where funding requirements are mostly short-term whereas longer-term finance such as needed for coffee production is more difficult to obtain. This varies from country to country but it is obvious that producers require different funding models because much if not most of their funding requirements are longer term. And, as is known, long term finance is the most difficult to obtain. However, for any funding model to be effective a positive enabling environment is required, i.e. appropriate strategy, policy, legislation and regulation frameworks must be in place because all impact on the availability and cost of finance. This is where policy makers come in because issues around access to (affordable) finance cannot be approached in isolation.

But lending also requires that the producers wishing to borrow are as well-organised as possible. The aggregation of funding requirements through producer organizations or other such bodies not only facilitates the process but usually also results in lower borrowing costs. Conversely, poor or no organization at the producer level hampers access to finance and

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makes it difficult to develop the kinds of efficiency that will improve farmer incomes. *In short, in addition to operational clarity from a supportive and effective enabling environment there are significant opportunities for market participants, ranging from producers to exporters to improve their “lendability” through undertaking actions and measures to reduce their exposure to risk and to operate in a way that reassures banks as to their professionalism.*

4.2 Lending limitations

4.2.1 Simply put, having to take ownership of any type of physical collateral, particularly agricultural, is every lender’s worst scenario. Firstly, many banks are unable to accurately value agricultural collateral (land, crops, etc.). But even where they can value such collateral, they are almost never equipped to manage it should they have to take ownership. Secondly, in many jurisdictions there is no clear legal basis for land ownership itself let alone the forced transfer thereof, particularly so in the smallholder sector. And even where transfer is legally possible, local circumstances may still make it impossible to take physical possession of land pledged as collateral. Which means that often, even where land is pledged as collateral, lending at the small producer level may effectively still be seen and priced as being unsecured.

Without suggesting that agri-banks do not apply responsible lending practices, it is a fact that many approach certain lending issues differently from commercial banks and, rightly, apply different conditionalities. Commercial banks often do not engage in unsecured lending at all or, where they do so, it is in the form of short term loans at rates of interest that producers cannot afford.

The reality is that lending at the producer level is nearly always agricultural lending, meaning the focus is on agriculture rather than commerce. Therefore, without a supportive, well-informed and experienced agri-banking sector, coffee producers will always have difficulty in accessing adequate and affordable finance. But providing all banks, both agri-focused and commerce-focused, with a better understanding of both the risks and the risk management opportunities pertaining to the coffee sector can only assist in increasing the availability of funds and facilitate their application.

4.2.2 Successful coffee production is a combination of human intervention and inherent factors as altitude, soils and climate. Even where the latter are ideal, poor management can still render production unprofitable, even when prices are good. Given that most producers cannot easily, if at all, influence prices, the only options open to them to achieve better results are improving yield, quality and efficiency. Good management therefore on the one hand aims to optimize these, and on the other to manage to the extent possible the risks that are inherent to coffee production. But to manage effectively requires being able to quantify these risks. Good management is much more difficult to achieve without the finance for necessary improvements and investments.

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4.2.3 The ability to correctly quantify risk is equally essential for the financial sector. Without a good understanding of the risks inherent to coffee production, lenders will err on the side of caution, resulting in lower advances and higher borrowing costs. However, the banks' approach is not only informed by their levels of expertise and understanding. Unfortunate past experiences also play a part and may cause some to limit their involvement as recouping losses caused by a serious default can take years. It is also important to stress here that even where agri-banks (or any bank for that matter) receive external funding for on-lending to a particular sector, their internal limits, conditionalities, security structures and risk assessment procedures remain in place and are not simply negated by such external funding. This can lead to extreme frustration on the part of donor agencies and potential borrowers alike but bank lending, irrespective of the source of funds, will always be conditional on the business case that is presented. Without good understanding and management to the extent possible of the risks involved in a particular sector, a good business case cannot be made - coffee is no exception.

4.3 Pre-conditions for a successful sector business case

- A well organised industry structure, including an appropriate regulatory environment;
- Adequate farmer support services, including access to information and the promotion of sustainability;
- A good track record and financial literacy at the farmer level;
- A good understanding of risk at both the production and the trade level;
- Access to risk management tools, including the ability to determine which tools are appropriate, which are not, and the limitations of each;
- Understanding that speculation is not part of risk management;
- An enabling macro environment that facilitates access to funding;
- Decent logistics;

4.4 The Role of Government and the Enabling Environment

In most instances it is the role of Government to provide an enabling environment for the coffee sector. This means that appropriate legislation, regulation, licensing, taxation, and commercial dispute settlement regimes are in place. Of course this varies from country to country but usually it is only Government that can address these requirements. How this is done will have favourable or unfavourable consequences. Some of the unfavourable consequences are often due to a lack of detailed insight into the issues facing the coffee sector. In terms of access to finance, it is therefore good to illustrate briefly what is meant by an enabling environment, i.e. one that facilitates access to funding generally, even if most of this is self-explanatory:

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Table 2

| Funding aspect or activity | Pre-conditions that must be satisfied | Other considerations that usually apply |
|--|---|---|
| Funding from abroad generally. | Funds can be freely moved in and out of the country in question. | There should be no history of 'unexpected' currency regulations or controls. Taxation regime should be clear, i.e. no ambiguity. |
| Pre-financing of goods from abroad in foreign currency | Against certified purchases/stocks. Insured in convertible, transferable currency. Can be directly offset against collection of export proceeds. | As Above |
| The quality of Collateral | Clear, unambiguous documents of title. No prior liens or third party rights. Must be enforceable under local legislation = fiduciary transfer of goods and authority to take possession and sell/export the goods. Usually applies to all lending. | Domestic legislation must be clear on what collateral is and how it can be realised. There must be efficient (commercial) courts and no history of endless 'delays' or surprises. |
| Collateral Management | Collateral Manager carries appropriate liability/indemnity cover. Proceeds freely transferable or, cover taken out abroad. | Must be recognised in domestic legislation. |
| Warehouse Receipts | Formally recognised as <i>enforceable</i> documents of title. No prior liens or third party rights. Warehousemen carry appropriate liability/indemnity cover. | Must be recognised in domestic legislation. Efficient (commercial) courts with no history of endless 'delays' or surprises. |
| Execution of Collateral rights | Clear procedures governing default or bankruptcy confirmation and execution. Underlying goods can be freely processed and/or exported by or on behalf of the creditor. | As above plus: Automatic trade or export license where required. Where applicable the foreign buyer accepts contract execution by lending institution, i.e. sales contracts are pledged to the lender. |
| Taxation | Clarity on external and domestic lenders' liabilities and rights in terms of interest income. | No 'unexpected' regulations or controls. Tax regime must be clear, i.e. no ambiguity. |
| Provision of third party funds versus lending limits | Provision of third party funds for on-lending through local banks does not necessarily release these banks from their own or local lending limits. | Limits (or caps) always apply to maximum exposure, both to the sector and to the individual borrower. Ratio of lending to pledged securities will never be 100%. |
| Logistics environment | There must be a clear chain of ownership at all stages that cannot be broken, up to and including shipment on board vessel. Documents of title confer formal and enforceable ownership on the lender. | Participants in the logistics chain (warehousemen, transporters, C&F Agents or Customs Brokers, Shipping Agents) are licensed. Domestic regulation is adequate. |

5. Brief introduction to main risk and funding issues at different stages

5.1 Production

When speaking of access to finance, especially at the producer level, it is important to differentiate between the tenor of financing and availability. While financing as a whole is often in scarce supply, funding when it is available is often limited to short term finance for harvest, or maybe pre-harvest, activities. Producers often have few opportunities to access the critical longer-term financing that is required for investment, greatly reducing the potential of a country's industry by hampering investment in improved technology and

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coffee trees. The impact of such inadequate provision of financing has been witnessed by the deterioration or stagnation of production in a number of countries, presumably because producers there have been unable to continue to invest in their production.

Funding requirements can be divided in five broad categories, each with its own risk scenario. The table is intended to provide a quick overview of both how lenders view different types of risks, and of the consequences when finance cannot be obtained.

Table 3

| Funding category | Objective | Duration to revenue | Most obvious risks | Lending considerations | Impact of no or insufficient finance |
|---------------------------------------|---|---|---|---|--|
| New plantings | Investment | 3 to mostly 5 years | Price falls. Crop failure. Poor quality. | Cannot be hedged. Value difficult to judge. Collateral value from nil to not necessarily good. Agri-focused lending, not commercial. | Cannot expand. No economies of scale. |
| Replanting | Replace old/diseased tree park with more performing cultivars. Maintain or improve productivity, i.e. yield and quality. Or, maintain tree park at most productive stage = never old. | Entire tree park: 3 to mostly 5 years. Alternatively, severe annual pruning or replacement cycle of 15 to 20% of the tree park. | Price falls. Crop failure. Poor quality. | Cannot be hedged. Value difficult to judge. Collateral value from nil to not necessarily good. Difficult to evaluate/monitor. Agri-focused lending, not commercial. | Tree park ages. Quality and yield fall. In time becomes uneconomic, ending in withdrawal. |
| Permanent structures and/or equipment | Improve efficiency, yield, quality | 1 to 2 years | Incorrect equipment. Lack of expertise. | Collateral value from nil to not necessarily good. Agri-focused lending, not commercial. | Efficiency and quality not optimal. Lower revenues. |
| Mobile equipment | Improve efficiency, yield, quality | 1 to 2 years | Incorrect equipment. Lack of expertise. Can be diverted. | Not good collateral. Agri-focused lending, not commercial. | Lower yield, quality and revenues. |
| Crop finance | Finances inputs, harvesting, processing and labour. | Annual cycle | Untimely or no application of inputs. Weather. Price falls. Crop diversion or theft. | Cannot be hedged. Not good collateral. No guarantee crop will materialise or will be of decent quality. Worst scenario: lender takes ownership. Agri-focused lending, not commercial. | Lower yield, quality and revenues. Exploitation by private lenders. Forced early selling may depress prices and incomes. |

The object of this table is to highlight the most obvious reasons why credit for these activities can be so difficult to obtain. These include a lack of realisable collateral, no clarity on the value of what is being funded, and no opportunity to offset risk. A better

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understanding of how risky all these factors really are should however assist banks to better evaluate such lending applications and to install appropriate monitoring systems.

As the table suggests the main negatives encountered are: a lack of realisable collateral and (often) insufficient understanding of the lending proposition by commercial banks that are therefore reluctant to lend.

5.2 Intermediate trade and export

This table too is meant to provide a brief insight in the concerns of lenders that potential borrowers will have to address when applying for trade finance.

Table 4

| Funding category | Duration to redemption | Most obvious risks | Lending considerations | Cost | Impact of no or insufficient finance |
|--|--------------------------------|--|--|---------|--|
| Collection marketing and intermediate processing | Variable – one to three months | Quality is poor. Price risk. Goods are not there. Imposition of unexpected taxes/other fees. | Difficult to hedge if quality unknown. Not good collateral. Previous poor experiences often limit commercial bank exposure. Must have acceptable own funds/collateral. | Highest | Limited farm gate competition = lower producer prices. |
| Export processing and marketing | Variable – two to six months | Quality is poor. Price risk. Goods are not there... Imposition of unexpected taxes/other fees. Delays and 'invisible costs'. | Can be hedged provided bank has control. Reasonable collateral, especially if presold to approved buyer. Must have acceptable own funds/collateral. | Lower | Cannot compete with multi-national firms. Reduces farm gate competition = lower producer prices. |
| Pre-shipment and collection of sales proceeds | Variable – one to two months | Price risk if goods unsold. Quality is poor. Contract execution is delayed or frustrated. Imposition of unexpected taxes/other fees. Delays and 'invisible' costs. | Can be hedged provided bank has control. Good collateral if quality known and if sold to approved buyer. Must still have acceptable own funds/collateral. | Lowest | Cannot compete with multi-national firms. Reduces farm gate competition = lower producer prices. |

The table shows relatively straight forward lending considerations which include the requirement that without acceptable funds/collateral, no credit will be provided. The table does not show, however, less obvious considerations. For example, the borrower does not add value, does not really understand the industry, overtrades, does not disclose all contractual obligations, does not present audited accounts, and so on. One or more of these often underlies the frequently heard lament that newcomers cannot raise finance because they have no track record.

The table below lists the basic conditionalities that most, if not all, trading operations will have to satisfy before funding is granted:

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Table 5

| Lending structure | Pre-conditions | Comment |
|---------------------------------|---|--|
| Underlying transaction | Agreed structure. Pre-approved buyers. Fixed price, risk management or fully hedged. | Borrower has all authorizations necessary to export. All levies, taxes are paid up to date. Legal opinion confirms lender's rights. |
| Insurance | Full commercial all-risks cover up to/including placing on board vessel or as stipulated in the contract, pledged to lender. Suitable political risk cover. | To include exporter default due to export restrictions, riots etc. |
| Physical stocks as security | Pledge agreement. Stored in approved warehouses, properly marked and identifiable. No commingling. | Warehousemen carry appropriate liability and indemnity cover. Quality and weight certificates are available. |
| Stock values | Daily verification of market value. | Top-up clause in lending agreement if value falls. Monitoring of processing and turnover speed. |
| Collateral Management Agreement | Must be in place. Must include performance and indemnity insurance, including fraud/negligence by own staff. | Collateral Managers and Warehousemen should not hold pre-emptive rights to the goods. Local legislation must be clear on this. |
| Export documents | Always in name of or assigned to the lending institution. | Must be negotiable. No ambiguity as to how or when negotiable shipping documents come under the lender's control. |
| Payment Risk | Pre-approved buyers only. Pre-set individual exposure limits. | Monitor payment speeds. Look for changes in payment patterns. |
| Daily position reports | Provide daily overview of borrower's entire trading operation. | Quantity and type of stocks; sold or unsold; amount of stocks under processing; goods awaiting shipment/in transit to port; outstanding invoices by individual buyer; open sales contracts by type (fixed price/PTBF) and by individual buyer; does quality of stocks match outstanding sales; always look for unusual fluctuations; |

As the table shows, there are a number of internal measures that potential borrowers can implement to improve not only the management of their business, but also to make it clear to potential lenders that as borrowers they understand both responsibility and risk. In other words, they run a disciplined operation and see the lender as a partner.

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5.3 The end product/end user

This table demonstrates that borrowers in this segment also have to satisfy certain pre-conditions but, mostly, these are perhaps less onerous to fulfil, particularly so for well-established and major operations.

Table 6

| Funding category | Duration to redemption (on average) | Most obvious risks | Lending considerations | Cost of funds |
|-----------------------------|-------------------------------------|--|--|--|
| Importation of green coffee | One to three months | Price, quality and credit risk. Incorrect or even fake documents. | Bank has control. If unsold, can be hedged. If sold to an approved buyer, the goods themselves and the collectables they will produce provide reasonable collateral. | Moderate but depends on operation, balance sheet and track record. |
| Roasting and distribution. | Two to four months | Price risk. Competition pressure. Price gauging by retail chains. Credit risk. | Bank often, but not always, has control plus borrower has acceptable to excellent balance sheet and collateral. | Low to moderate depending on size of operation and type of credit granted to buyers. |
| Distribution and retail | Two to four months | Credit risk. | Bank needs control but not guaranteed. Borrower must have acceptable balance sheet and collateral. | Low to moderate, depending on size of operation |

Notable here is the inclusion of credit risk. This is because most of the trade in end product is based on credit, certainly so in the specialty segment.

Not listed here (as it is not related to financing) is the risk that sellers in origin default on forward export contracts, for example when prices rise sharply. This is a huge trading risk about which the final reports will say much more. It is good to point out here that there is little protection against defaults other than to deal exclusively with very well-established counterparts or to purchase from own branches or associated companies at origin. Authorities in producing countries approach default in different ways, but it is generally accepted that in many countries it is impractical for a foreign importer to even try and obtain settlement under an arbitration award.

Risk & Finance in the Coffee Sector - Annex 1 – 3

Draft Risk Matrix Foreword

This document lists a number of (mostly technical) risks and issues facing the coffee sector, the likely impact these have and what could or should be done to mitigate that impact. The combination of different aspects as probability, impact and mitigation into a single, easy to read table is intended to provide a quick reference for stakeholders at all levels of the value chain, including policymakers and others who may not always be aware of the detail in question. In due course it will be expanded by what is now provisionally called a 'Solutions Matrix' that hopes to provide practical answers to some of these technical issues and problems. However, at this stage the Risk Matrix is purely a work in progress. The objective of providing a first draft already now is first of all to demonstrate that this study will aim not only at providing high level insights into linkages between risks and finance, but will also offer practical answers to the extent possible to day-to-day occurrences, particularly for producers. Secondly it offers an opportunity for all ICO members to comment or offer further entries. This is therefore a request from the study team to do so. Suggestions and comments may be addressed to the ICO Head of Operations **no later than 28 March 2013** (email: info@ico.org and galindo@ico.org) at the ICO Headquarters.

Risk & Finance in the Coffee Sector - Annex 1 – 3

Annex 1 - Draft Risk Matrix

| Types of Risk and/or factors impacting grower incomes | Probability | Impact | Potential Mitigation Measures | Required Support Environment | Macro linkages | Value Impact |
|---|-------------|------------------------------|--|--|---|---|
| Production – Field | | | | | | |
| Climate Change Impact | Confirmed | Variable to considerable | GAP and adequate information. | Good farmer organization and education. | Sustainability programs. | Higher costs Lower incomes Withdrawal from coffee farming |
| Severe weather events, i.e. droughts, floods etc. | Probable | Considerable to catastrophic | GAP and Early Warning Systems. | Weather stations and insurance. | State supportive | Severe sudden losses Switching to other crops |
| Erratic Rainfall | Probable | Moderate to considerable | GAP. Early Warning Systems. Irrigation. | Weather stations and insurance Finance irrigation equipment. Water availability. | Varieties of research. State supportive. | Higher costs Lower yield and quality Switching to other crops |
| Unseasonal Rainfall during flowering | Occasional | Variable | | | | Lower yield |
| Planting unselected varieties | Occasional | Variable to considerable | Research and extension services. | Experimental and demonstration farms/plots | Sustainability programs Trade support | Lower yield, quality and income |
| No suitable (selected) planting material | Occasional | Variable | Private or public seed production/ Nurseries. | Finance purchase of planting material. Subsidize cost. | Good sector organization. Private initiatives. NGO's | Lower yield, quality and income |
| Insufficient or inadequate irrigation | Occasional | Variable to considerable | GAP and irrigation equipment. | Finance irrigation equipment | State supportive Availability of water | Erratic flowering/maturation Lower yield, quality and income |
| Incorrect fertilization | Occasional | Variable | GAP, Research and Extension Services | Good farming education. Access to soil analysis | Sustainability programs. | Higher costs. In extreme cases water pollution |
| Pests/Disease | Probable | Moderate to catastrophic | GAP. research and extension services. Early Warning Systems. | Adequate funding of Research and Extension Sanitary harvesting | State supportive. Sustainability Programs. | Higher cost. Lower yield, quality and income, at times severe |
| Ageing Tree Park | Probable | Variable to considerable | GAP. Adequate research and extension services. | Good farming education. Access to appropriate seed and seedlings. Renewal finance Spread replacement | Good sector organization. Sustainability programs. Informed banking system. | Higher risk of Pest/Disease outbreak and contamination. Lower yield, quality and income. Failing coffee industry. |
| No renewal strategy, i.e. no pruning or replanting cycle. | Occasional | Variable | GAP. Reliable long-term land ownership. On-farm nurseries. | Availability of appropriate seed and seedlings. Renewal finance | Long-term State policy. Sustainability programs. | Higher risk of Pest/Disease outbreak and contamination. Lower yield, quality. And income. Failing coffee industry |
| Poor erosion control, shade management, weeding etc | Probable | Variable | GAP, training, demonstration plots, extension | Good farming education | Sustainability programs. | Lower yields, quality and incomes. |
| Theft | Occasional | Variable | Trade controls | Good Sector organization | State intervention. | Direct loss |
| No or Poor Quality Inputs | Occasional | Variable to considerable | Farmer organization. Trade controls. | Sector organization. Seasonal finance. Use of mulch, compost, waste and manure. | State supportive. | Lower yield and quality |
| Input Price Volatility | Probable | Variable | Farmer organization | Sector organization. Bulk buying | State supportive . | Inability to plan. Variable production costs. |
| Inadequate Yields | Probable | Variable | GAP. Adequate research and extension | Adequate funding of Research and Extension. Farmer education. | State supportive. Sustainability programs. | Low farmer incomes. Switching to other crops |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Types of Risk and/or factors impacting grower incomes | Probability | Impact | Potential Mitigation Measures | Required Support Environment | Macro linkages | Value Impact |
|---|-------------|--------------------------|--|---|---|--|
| | | | services. Demonstration farms/plots. | | | |
| No or expensive labor | Probable | Variable | GAP and Tree Management. Mechanization. | Extension and farmer education. Investment finance. Good farm management. | Sustainability programs. | Reducing farmer incomes |
| No (affordable) Finance | Probable | Variable to considerable | Access to Micro Finance, Savings and Loans, etc. | Good farmer organizations. | Good Sector organization. State, trading and banking sector supportive. | Excessively high costs or, unable to invest. Often unable apply inputs or harvest when required = lower yields, quality and income |
| No Formal Land Ownership | Probable | Variable | Formalized ownership structures, not only title deeds. | Good Sector organization. Micro Finance Schemes and other NGO support. | Informed banking sector. State intervention. Cadastral survey. | Limits access to finance, yet formalized land tenure not necessarily an effective security. Also results in breaks in plantings and investment. Impedes long-term strategy |
| Production – Harvesting & Processing | | | | | | |
| Harvesting errors | Occasional | Moderate to considerable | Green cherry separation. Quality control. Remuneration according to quality. | GAP and training. | Sustainability programs | Lower quality and value |
| Poor on-farm storage | Probable | Variable | GAP. Training. Investment. | Good farmer organization. Extension services. Investment finance. | Good Sector organization. Sustainability programs. | Lower quality, theft. Risk of ingress of pests, mold, contamination etc. Lowers value. |
| No or unreliable electricity supply | Occasional | Considerable | Generating equipment. Improved State infrastructure. | Sector lobbying. Investment finance. | State intervention | Higher cost. Loss of income. |
| No or limited water | Occasional | Moderate to considerable | Limit water consumption. Farmer education. | Sector organization. | Sustainability programs | Lower quality, value and income |
| Unseasonal rainfall – drying | Probable | Moderate to considerable | Early Warning Systems. Drying surfaces or equipment. | Weather stations. Investment finance. | Sector organization | Lower quality and value |
| Theft | Occasional | Variable to considerable | Trade controls. Insurance. Secure mills and stores. | Good sector organization. | State intervention | Direct loss |
| Poor or erratic Quality | Occasional | Variable to considerable | Research and Extension . Quality controls and standards. Price according to quality. | Good sector organization. Farmer education. | State supportive. Sustainability programs. | Lower value, at times severely so. Risk of mold and insect infestation |
| Processing errors | Occasional | Variable to Considerable | Research. Training. Extension services. Quality control. | Good farming organization. Investment finance. | Sustainability programs. | Can destroy quality and value. Risk of loss of reputation. |
| Outdated or inappropriate equipment | Occasional | Variable to considerable | Training. Extension services. | Investment finance. | Equipment manufacturers | Lower yield, quality and income |
| High water consumption | Occasional | Variable to | Adapt process | Investment finance. | Equipment | Impact on |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Types of Risk and/or factors impacting grower incomes | Probability | Impact | Potential Mitigation Measures | Required Support Environment | Macro linkages | Value Impact |
|---|------------------------|--------------------------|--|---|--|---|
| | to probable | considerable | techniques and equipment. Water recirculation. Demonstration mill. | | manufacturers. Sustainability programs. Legislation. | environment |
| Water pollution | Occasional to probable | Variable | GAP. Farmer education. Training. Water sanitation | Good Sector organization. Finance. | Sustainability programs Legislation | Impact on environment and human health |
| Waste management | Occasional | Variable | GAP. Training. | Good Sector organization | Sustainability programs Legislation | Impact on environment |
| Poor Roads/Lack of transport | Occasional to probable | Variable to considerable | Infrastructure investment | Good Sector organization Investment finance | State intervention | Higher costs. Limits market access. Fewer collectors often results in lower farm gate prices. |
| Production – Marketing | | | | | | |
| Poor or Erratic Quality | Occasional | Variable to considerable | Quality Control Trained staff Standards | Good sector organization. | Sustainability Programs | Fewer buyers, reduced values |
| Excessive Moisture Content | Occasional | Variable to considerable | Training Standards Remuneration according to MC | Farmer education. Moisture meters. | Sector organization | Lower quality and value |
| Limited (farm gate) competition | Occasional to probable | Variable | Good farmer organization Transport facilities and collection centers. Price information | Good sector organization. | Trade support, Education | Low prices. No quality premium. In extreme cases: exploitation of farmers. |
| Excessive (farm gate/Collectors/Exporters) competition | Occasional | Variable | Farmer education. | Good sector organization. Supervision/monitoring. | Sustainability programs | Unrealistic price promises. Quality destruction. Defaults |
| Lack of Working Capital/Crop finance | Probable | Variable to considerable | Well organized Audited Accounts Good Reputation | Good sector organization. Security pledges that can be realized. | Informed banking sector. State and buyer support | Unable guarantee supply = less buyer interest, lower price |
| Poor Roads/Lack of transport | Occasional to probable | Variable to considerable | Infrastructure investment | Good sector organization. Investment finance. | State intervention | Higher costs. Limits market access. Shipping delays = lower revenues. |
| No or insufficient market information. Inability to interpret market behavior | Probable | Variable to considerable | Trained staff 'knows' coffee.... Decent communications | Good sector and farmer organization. | Trade support, education | Lower prices, wrong decisions |
| Production – Prices | | | | | | |
| Prolonged external price falls | Remote but possible | Catastrophic | Improve yields Improve quality Reduce costs Research and Extension | Good sector and farmer organization. | Informed banking sector. State and buyer support. Sustainability programs. | Impossible to 'manage'. Destruction of assets. Increased poverty. Farmer withdrawal. |
| Unstable internal prices | Highly probable | Considerable | Forward sales Risk Management | Good sector and farmer organization. | Informed banking sector. State and buyer support. | Unstable incomes Inability to raise finance or plan investments |
| Day to day external price volatility | Highly probable | Considerable | Trained staff 'knows' coffee. | Good sector and farmer organization. | Informed banking sector. | Inability to time sales. Often no |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Types of Risk and/or factors impacting grower incomes | Probability | Impact | Potential Mitigation Measures | Required Support Environment | Macro linkages | Value Impact |
|---|-----------------|--------------------------|--|--|--|---|
| | | | Decent communications. Risk management. | | State and buyer support. | relation to domestic market situation and increases chances of exploitation by intermediaries. |
| No clear farm gate pricing models or formulas | Highly probable | Moderate to considerable | Training, regulation, extension. | Good sector and farmer organization. | Final buyer/exporter support. Use of electronic media. | Farmers may be cheated on weight, moisture content, conversion ratios, defects and price. |
| Exchange rate volatility | Probable | Moderate to Considerable | Decent communications Risk management | Good sector and farmer organization | Informed banking sector. State supportive. | Increases domestic price volatility. Strengthening local currency = lower sector revenues |
| Production – General | | | | | | |
| No clarity around real cost of production | Probable | Moderate | Farmer organization. Farm accounting. Training. | Good sector and farmer organization. | State supportive. Sustainability programs and other NGO initiatives. | Not managing costs. Inability to make informed comparisons and investment decisions. |
| No Financial Literacy | Probable | Moderate | Farmer organization. Training. | Good sector and farmer organization. | State supportive. Sustainability programs and other NGO initiatives. | Uninformed investment decisions. Potential for financial loss if not exploitation. |
| Inadequate Research and Extension Services | Possible | Considerable | Identify priorities and set strategies. Provide resources. | Good sector organization | State intervention. Sustainability Programs. | Falling volumes and quality. Over time can mean becoming 'irrelevant' in market terms, followed by farmer withdrawal. |
| Interest rate risk | Possible | Variable | Strong industry representation. Lobbying | Good sector organization. | State supportive. Informed banking system. Final buyer support (occasionally). | Rising interest rates impact directly on farm gate prices as all along the value chain pass this cost back. Can disadvantage domestic operators. Less investment. |
| No (neutral) price information | Probable | Variable | Easily available neutral price and market information | Training on how to analyze/interpret information. Provide formal, i.e. neutral channel via Internet and mobile phones. | State supportive. Good Sector organization. | Exploitation by middlemen. But information excesses can be equally problematic. |
| No long term investment finance | Probable | Variable | Good farmer organization. Extension services. | Good sector organization. Demonstrate cost/benefit of crop rejuvenation . | State supportive. Informed banking system. Sustainability programs. | Many unable to even afford annual replanting of small numbers of trees. Lower yields and falling quality. Increasingly uncompetitive |
| No weather related insurance | Probable | Variable to considerable | Lobbying by sector organizations | State intervention | Insurance or banking companies | Loss of income. If severe (which is entirely possible) may result in farmer withdrawal. |
| No more suitable land | Occasional | Variable to considerable | Land restructuring | Restricting speculative land ownership. | State supportive Legislation | Stagnating or decreasing yield |
| No owner succession | Occasional | Variable to considerable | Education | Farmer organization | Agricultural colleges | Stagnating or decreasing yield. Probably reduces access to finance. |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Types of Risk and/or factors impacting grower incomes | Probability | Impact | Potential Mitigation Measures | Required Support Environment | Macro linkages | Value Impact |
|---|-------------|----------|-------------------------------|------------------------------|--------------------------|--------------------------------|
| No crop differentiation | Occasional | Moderate | GAP and adequate information | Good farming education. | Sustainability programs. | Exclusive dependence on coffee |

| Sector | Probability | Impact | Potential Mitigation | Support Environment | Links | Value Impact |
|--|------------------------|--|--|--|--|---|
| Domestic Collection Marketing | | | | | | |
| Erratic quality Adulteration | Possible to probable | Variable | Quality control. Trained Staff. Reward 'quality'. Extension Services. | Sector regulation Standards Farmer training | State supportive sustainability programs | Reduced values. Risk of rejection. |
| Unseasonal rainfall - drying | Probable | Moderate | Early Warning Systems. Extended drying surface, drying trays, covered drying beds, mechanical drying equipment. | Weather stations Investment finance | Informed banking system. Final buyer/exporter support | Lower quality. Risk of rejection. |
| Excessive (farm gate) competition | Occasional | Variable | Reward 'quality'. Honest weighing and pricing. Farmer training. Supervision/monitoring. | Extension services | Good sector organization. Sustainability programs | Quality destruction. Risk of grower default. |
| Poor roads/lack of transport | Occasional to probable | Variable | Infrastructure improvement. Up-country collection centers. Grouped transport by farmer organizations. | Good sector and farmer organization. Investment finance | State intervention Final buyer/exporter support | Higher costs Limits market access. |
| Inadequate storage | Occasional to probable | Variable | Trained staff . GAP. Suitable storage facilities. Training. | Investment finance. | Informed banking system. Final buyer/exporter support. | Damage and/or loss of quality, ingress of pests. Higher insurance and finance costs or, inability to raise finance. |
| Poor intermediate processing | Occasional to probable | Variable | Trained staff. Good supervision. Understand 'quality'. Avoid poor quality cherries and wet parchment. | Sector regulation. Good sector and farmer organization. | Final buyer/exporter support. Sustainability programs. | Quality and value destruction. Unnecessary losses. |
| No, or not transparent MC/quality/weight assessment. No, or not transparent bonus/penalty policy | Possible to probable | Variable to considerable | Standards. Communication. Training of farmers/collectors/traders. | Good sector and farmer organization. Formal structures for complaints and mediation | State and regulatory support. | Mistrust. No interest in 'quality'. Declining interest in coffee farming. |
| Poor or no traceability | Possible to probable | Variable but in time can become considerable | Training. Good Farmer organization. Good storage facilities. | Good Sector organization. Extension Services. | Trade support. Sustainability programs. | No feedback to farmers. No recognition by buyers and end users. Eventually value destruction. |
| Theft | Occasional | Variable to considerable | Secure storage. Insurance. | Good sector organization. Trade controls | State intervention. | Direct loss. Possibly inability to insure/raise finance. |
| Day to day (external) price volatility | Probable | Considerable | Trained staff that 'knows' coffee. Decent communications. Risk management training. | Links with final/export buyers. Access to (neutral) market information. | Informed banking system. Final buyer/exporter support. | Trading back-to-back is least risky but, not always possible, lower margins. Alternatively take more risk. Needs discipline, limits etc. |
| Lack of market information/ inability to interpret market | Probable | Variable to considerable | Trained staff that 'knows' coffee. Decent communications. | Links with final/export buyers. Access to | Informed banking system. Final | Trading 'blind' = speculation if no internal discipline |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Sector | Probability | Impact | Potential Mitigation | Support Environment | Links | Value Impact |
|--|-----------------------------|--------------------------|---|--|--|---|
| behavior | | | | market information | buyer/exporter support | and exposure limits. |
| Major price moves | Possible | Variable | 'Know' your growers and your buyers. | Links with final/export buyers. Access to market information. | Sector regulation. | Growers and/or buyers default on earlier commitments. |
| Prolonged external price falls | Remote but possible | Variable | Specialize on 'quality' Diversification... Join sustainability standards | Links with final/export buyers. Access to market information. | Informed banking system. Final buyer/exporter support. | Low prices = lower margins. Increased quality problems. More risk if stock holdings increase |
| Lack of working capital | Probable | Variable to considerable | Well organized, disciplined trading Audited accounts Track record | Security pledges that can be exercised. | Informed banking system. Final buyer/exporter support | High cost of funding. Unable to attract volumes =less buyer interest=lower prices/margins. |
| Interest rate risk | Possible | Variable | Strong industry representation Increase turnover speed. Improve efficiency. | Good sector organization. Final buyer/exporter support. | State supportive Informed banking system | High domestic interest rates increase costs and reduce turnover/buying capacity =lower farm gate prices. Can also disadvantage domestic operators. |
| Non-payment or buyer default | Possible | Variable | Valid contracts. 'Know' your buyers. | Good sector organization. Credit insurance. | State and regulatory support. | Fewer traders can mean reduced competition at farm gate |
| Export Marketing Environment | | | | | | |
| Erratic quality Inferior quality Adulteration Unfit for human consumption | Possible to probable | Variable to considerable | Know your domestic counterparts. Quality Control. Reward 'quality' through transparent purchasing procedures. Refuse to accept substandard coffee. Employ qualified staff. | Good sector organization. Standards. | Sector regulation. Sustainability Programs. | High cost of processing. Reduced to producing bulk or commodity quality = lower value, higher risk. Possible export default if suppliers deliver sub-standard coffee. |
| Inefficient export Processing | Possible | Variable | Trained staff who 'know' coffee and keep proper records Adequate equipment Monitor... | Good Sector organization Standards Self-regulation Investment finance | Sector regulation. | Excessive weight loss and quality destruction. Can hide fraud/theft. Limits markets. Loss of value. |
| Inadequate shipping opportunities. Port congestion | Possible to probable | Variable to considerable | Infrastructure investment | Good Sector organization. Decent port structures. Investment finance | State supportive. | Shipping delays, transshipment = higher costs. Puts off buyers, especially roasters. Limits markets and reduces flexibility |
| Overregulation Bureaucracy | Possible to probable | Variable | Strong industry representation. Streamline procedures. Self-regulation. | Good Sector organization. Sensitization programs. | State intervention. | Limits competition. Adds indirect or 'invisible' costs that in the end reduce farm gate prices. |
| Counterpart cum Reputational risk Defaults | Possible, both internal and | Variable to considerable | Know your domestic counterparts. Good Sector organization. | Sector regulation. Formal dispute resolution | State supportive. Appropriate, effective legal | Quality claims and defaults put off many buyers, especially roasters. |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Sector | Probability | Impact | Potential Mitigation | Support Environment | Links | Value Impact |
|--|----------------------|--------------------------|--|--|---|--|
| | external | | | procedures. | framework offering redress. | Increases cost of doing business. If severe lowers price potential. |
| Theft and Fraud | Occasional | Variable to considerable | Know your domestic counterparts. Good internal monitoring. Insurance. | Sector regulation. | State supportive Appropriate, effective legal framework offering redress. | Increases the cost of doing business and reduces farm gate prices. |
| Excessive export costs and taxes | Possible | Variable to moderate | Strong industry representation. Open monopolies to competition. Follow best practices. | Good Sector organization. Regulation Lobbying | State intervention. | In the end all coffee is priced 'landed roasting plant'. Deducting all costs and margins gives the farm gate price... |
| Corruption | Possible | Variable | Strong industry representation | Good Sector organization. Regulation. | State intervention. | See above. |
| Lack of affordable trade finance | Possible to probable | Variable | Well established. Audited accounts. Acceptable balance sheet. Security. Collateral management | Good Sector organization. Final buyer support. | State supportive. Informed banking sector. | Limits competition and can lower farm gate prices. Can disadvantage domestic operators. |
| Interest rate risk | Possible | Variable | Strong industry representation. Increase turnover speed. Improve efficiency. | Good Sector organization. Final buyer support. | State supportive. Informed banking system Access to external financial markets. | High domestic interest rates increase the cost of doing business =lower farm gate prices. Can also disadvantage domestic operators. |
| Currency risk | Probable | Variable to considerable | Access to risk management instruments. Monitoring Discipline | Good Sector organization. Enabling regulatory regime. | State supportive Informed banking system Access to external financial markets | Inability to manage currency risk requires higher margins = lower farm gate prices. In worst case scenarios can eliminate some actors thereby reducing competition. Can disadvantage domestic operators. |
| Country Risk | Possible | Moderate | Strong industry representation. | Good Sector organization. Long-term policy. | State intervention. Informed banking sector | Increased country risk raises the cost of finance = lower farm gate prices |
| Insufficient clarity on contractual rights and obligations | Possible to probable | Variable | Training, seminars etc. | Good Sector organization. | State supportive. Informed banking sector | Impact can range from simple errors and inconveniences to almost catastrophic losses |
| Inadequate, inefficient or non-existent Sector Organization/representation | Possible to probable | Variable to considerable | Understand and promote the common interest. Demonstrate the impact of 'invisible costs'. | Good Sector organization, able to analyze constraints and make strong representations. | Supportive State. Informed banking sector. Enlist help of final buyers | Without credible representations the revenue impact of constraints remains hidden. |
| Export Marketing - Price Risk | | | | | | |
| Day to day external price volatility | Highly probable | Considerable | Trained staff who 'know' coffee... Good communications. Trading limits and discipline. Risk management | Good sector organization. Access to affordable risk management | Informed banking sector. Possible State support and help from final | Often no link with domestic market situation. Increases risk. Complicates purchase and sales |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Sector | Probability | Impact | Potential Mitigation | Support Environment | Links | Value Impact |
|----------------------------|----------------------|--------------------------|---|--|---|---|
| | | | | solutions. Enabling regulatory regime. | buyers. | decisions. Hedging means margin calls... Options not always the answer... Lack of access to risk management instruments disadvantages domestic operators. |
| Basis or Differential risk | Highly probable | Considerable | Trained staff who 'know' coffee... Good communications Trading limits and discipline. Understand local markets and how PTBF contracts work. ¹ | Good sector organization. Training and information sources. | Informed banking sector. Possible State support and help from final buyers. | Cannot be 'managed' other than by limiting exposure = internal discipline. Impact can be severe. |
| Speculative risks | Possible to probable | Moderate to Considerable | Trained staff. Trading limits. Position reports. Unfortunately it is possible to 'hide' short sales until the coffee has to be bought. ² | Training and information sources. | Informed banking sector. | Over-trading or speculative positions can lead to defaults and bankruptcy. Affects sector reputation. |
| Quality and Value risk | Possible | Variable | Quality control. Does quality of purchases, arrivals or stocks match sales? | Sector regulation. Standards. | Informed banking sector. Collateral management | Incoming quality doesn't match what is sold or, is unusable. Can mean having to buy new stock and sell unfit stock = huge losses. |
| Counterpart risk Domestic | Possible | Variable | Know your suppliers. Set individual exposure limits for forward commitments. Daily reports on everything! | Sector regulation. | Informed banking sector. Enabling legal environment. | Default by domestic suppliers can in turn result in defaulting on sales commitments. |
| Counterpart risk External | Possible | Variable | Know your buyers. Set individual exposure limits on both forward sales and outstanding payments. Daily reports on both. Look for changes in payment behavior. Documents via bank etc. | Access to information sources (although credit reports not always helpful or even accurate). | Informed banking sector | Default by end users is rare but can happen. Potential impact huge as no payment and now unsold coffee afloat or in an overseas port. |

¹ PTBF = Price To Be Fixed Contracts = at the time of sale only the differential is set with the applicable futures price left open for 'fixing' at a later date through an agreed arrangement. Combining the two then provides the final sales price.

² Short = enter into the sales commitment now and purchase the required coffee later. Long = buy coffee now and resell at a later date.

Risk & Finance in the Coffee Sector - Annex 1 – 3

Annex 2 – Preliminary Listing and Consideration of Financing Issues facing Coffee Sectors

| Sector | Availability | Cost | Limitations | Impact | Potential mitigation | Support Environment | Value Impact |
|---|---|---------|---|--|--|---|---|
| Production | | | | | | | |
| Longer term Investment finance | Limited to nil | ? | No security and/or insecure land tenure. Not a commercial bank activity or priority. | Inability to renew or extend plantings. | Good Sector and Farmer organization. | State supportive. Agriculture credit channels for longer term finance. Sustainability programs. | Declining yield and quality. Increasingly uncompetitive, becoming unsustainable. |
| Medium Term Investment Finance | Limited to nil | ? | No security and/or insecure land tenure. Not a commercial bank activity or priority. | Inability to construct or upgrade processing and storage facilities | Good Sector and Farmer organization. | State supportive. Agriculture credit channels. Sustainability programs | Unable improve quality, address food security concerns or diversify into specialty markets. |
| Crop Finance | Limited to nil | ? | As above. Also, crop may be diverted or quality delivered may be too poor. Applies to individuals, co-operatives and farmer groups. | No inputs or untimely application. Forced to use informal credit channels. | Good Sector and Farmer organization. Micro-credit where available/feasible/affordable. | State supportive. Agriculture credit channels. Sustainability programs and value chain partners. | Lower yield and quality. Forced to pay usury rates of interest. |
| Post-harvest | | | | | | | |
| Collection and Interior Processing credit | Limited. Ratio to own funds: lowest | Highest | Insufficient security. No formal accounts. Limited own funds. Price, quality and theft risk. | Use own funds or informal credit channels. | Good Sector and Farmer organization. Adequate storage and insurance. Collateral manager. Bank has real title to goods. | Agriculture credit channels. Informed banking system Sustainability programs and supportive value chain partners. Letters of Credit... | Reduces competition whilst higher cost of funds mostly recouped from farm gate prices. Can exclude small farmer organizations. |
| Export | | | | | | | |
| Stock credit | Limited. Ratio to own funds: lowest | High | Must have own funds, pledgeable security. Stock rotation. Price, quality and theft risk. | No credit for speculative stock holdings. (Unsold stocks that are not hedged). | Adequate storage, insurance. Collateral manager. Bank has real title to goods. Pre-sold to approved buyers or hedged. Letters of Credit. | Informed banking system. Appropriate, effective legal framework. Access to hedging instruments. Supportive value chain partners, | Can exclude small farmer organizations from moving up the value chain. Can disadvantage domestic operators. |
| Export Processing credit | Limited to adequate. Ratio to own funds: higher | High | Must have own funds, pledgeable security. Stock rotation. Price, quality and theft risk. | No credit for speculative stock holdings. (Unsold stocks that are not hedged). | Adequate storage, insurance. Collateral manager. Bank has real title to goods. Pre-sold to approved buyers or hedged. Letters of Credit. | Informed banking system. Appropriate, effective legal framework. Access to hedging instruments Supportive value chain partners. | Can exclude small farmer organizations from moving up the value chain. Can disadvantage domestic operators. |
| Pre-shipment finance | Adequate. Ratio to own funds: higher | Lower | Must have own funds, pledgeable security. Stock rotation. Price, quality and theft risk. | No credit for speculative (unsold or unhedged) stocks | Adequate storage, insurance. Collateral manager. Bank has real title to goods. Pre-sold to approved buyers or hedged | Informed banking system. Appropriate, effective legal framework. Access to hedging instruments. Supportive value chain partners. Letters of Credit. | Can exclude small farmer organizations from moving up the value chain. Can disadvantage domestic operators by excluding potential but unknown buyers. |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| Sector | Availability | Cost | Limitations | Impact | Potential mitigation | Support Environment | Value Impact |
|--|---------------------------------------|----------|---|--|---|--|---|
| Negotiation of shipping documents | Adequate. Ratio to own funds: highest | Lowest | Understands the business. Collateral manager. No errors. Must have good track record. | | Sold to pre-approved buyer. Documents in bank's name, providing real title. | Informed banking system. Appropriate, effective legal framework. | Can disadvantage domestic operators by excluding potential but unknown buyers. Costs can be manipulated. |
| Different types of advance Letters of Credit | Variable | Variable | Understands the business. Collateral manager. No errors. Must have good track record. | Can be very helpful but recipient still has to conform to local bank's requirements and limitations. | Sold to pre-approved buyer. Documents in bank's name, providing real title. | Informed banking system. Appropriate, effective legal framework. | Many buyers dislike opening L/C's. Cost always calculated and deducted. But can assist especially smaller operations. |

Risk & Finance in the Coffee Sector - Annex 1 – 3

Annex 3 – Initial List of Mechanisms and Tools for Improving Coffee Sector Finance and Regulatory / Enabling Environment Prerequisites and Requirements

| General | Pre-conditions | Comment |
|-----------------------------------|---|--|
| Foreign funding | Can be freely repatriated. | No 'unexpected' regulations or controls. No taxation ambiguity. |
| Pre-financing in foreign currency | Against certified purchases/stocks. Insured in convertible, transferable currency. Can be directly offset against collection of export proceeds. | Ditto |
| Collateral | Clear, unambiguous documents of title. No prior liens or rights. Must be enforceable under local legislation = fiduciary transfer of goods and authority to sell the goods. | Clear legislation. Functioning (commercial) courts. No endless 'delays' or surprises. |
| Collateral Management | Collateral Manager carries appropriate liability/indemnity cover. Proceeds freely transferable or cover taken out abroad. | Recognized in domestic legislation. |
| Warehouse Receipts | Formally recognized as <i>enforceable</i> documents of title. No prior liens or rights. Warehousemen carry appropriate liability/indemnity cover. | Recognized in domestic legislation Functioning (commercial) courts. No endless 'delays' or surprises. |
| Execution of Collateral rights | Clear procedures governing default confirmation and execution. Underlying goods can be freely processed and/or exported by or on behalf of the creditor. | Recognized in domestic legislation. Functioning (commercial) courts. No endless 'delays' or surprises. Automatic trade or export license where required Buyer accepts contract execution by lending institution, i.e. contracts are pledged to the lender. |
| Taxation | Clarity on external lender's liabilities and rights in terms of interest income. | No 'unexpected' regulations or controls. No taxation ambiguity. |
| Lending limits | Provision of external funds through local banks does not necessarily release these from their own or local lending limits. | Limits (or caps) always apply to maximum exposure to the sector and to individual borrowers. Ratio of lending to pledged securities will never be 100%. |
| Commercial | Pre-conditions | Comment |
| Underlying transaction | Agreed structure. Pre-approved buyers. Fixed price, risk management or fully hedged. | Borrower has all authorizations necessary to export. All levies, taxes are paid up to date. Legal opinion confirms lender's rights. |
| Risk management | Hedging tools, in-built margin call financing | Access to financial markets/risk management instruments Clarity on how PTBF contracts are to be fixed Clear in-house position and exposure limits Regular reporting plus spot checks |
| Insurance | Full commercial all-risks cover up to/including placing on board vessel or as stipulated in the contract, pledged to lender. Suitable political risk cover. | To include exporter default due to export restrictions, riots etc. |
| Physical stocks as security | Pledge agreement. Stored in approved warehouses, properly marked and identifiable. No commingling. | Warehousemen carry appropriate liability and indemnity cover. Quality and weight certificates are available. |
| Stock values | Daily verification of market value. | Top-up clause in lending agreement if value falls. Monitoring of processing and turnover speed. |
| Collateral Management Agreement | Must be in place. Must include performance and indemnity insurance, including fraud/negligence by own staff. | Collateral Managers and Warehousemen should not hold pre-emptive rights to the goods. Local legislation must be clear on this. |
| Export documents | Always in name of or assigned to the lending institution. | Must be negotiable. No ambiguity as to how or when shipping documents come under the lender's control. |
| Payment Risk | Pre-approved buyers only. Pre-set individual exposure limits. | Monitor payment speeds. |

Risk & Finance in the Coffee Sector - Annex 1 – 3

| General | Pre-conditions | Comment |
|------------------------|--|---|
| Daily position reports | Provide daily overview of borrower's entire trading operation. | Look for changes in payment patterns. Quantity and type of stocks; sold or unsold; amount of stocks under processing; goods awaiting shipment/in transit to port; outstanding invoices by individual buyer; open sales contracts by type (fixed price/PTBF) and by individual buyer; does quality of stocks match outstanding sales; |