The World Bank

Agriculture & Rural Development Internal Report

FOR OFFICIAL USE ONLY

Coffee Markets

New Paradigms in Global Supply & Demand

AGRICULTURE AND RURAL DEVELOPMENT

Bryan Lewin
Daniele Giovannucci
Panos Varangis

Agriculture & Rural Development Department
1818 H Street, N.W.
Washington, DC 20433

About the authors

Bryan Lewin was previously the Economist of the Association of Coffee Producing Countries, and now works in the Agriculture and Rural Development department of the World Bank on commodities and risk management.

Daniele Giovannucci is a former corporate executive and market strategies expert. He advises international agencies and governments and is a senior consultant for The World Bank Group.

Panos Varangis is a Lead Economist at the Agricultural and Rural Development department of the World Bank, dealing with issues related to commodities and commodity risk management.

Contents

List of Tables

List of Figures

List of Boxes

Acknowledgments

The authors would like to acknowledge contributions and assistance with data and field work from the International Coffee Organization, United States Department of Agriculture, and coffee trade companies including Louis Dreyfus Corporation, Neumann Kaffee Gruppe, Noble Resources and Volcafe, Starbucks, Cecafe (Brazil), National Federation of Coffee Growers (Colombia), and Vicofa (Vietnam).

Useful advice and comments on drafts came from Pauline Tiffen (World Bank CRMG), Pablo Dubois (ICO), Neil Rosser (NKG Statistical Unit), Hank Dunlop (Ecom Trading) Reto Ghilardi (Volcafe), Mark Lobering (Proctor and Gamble), Jens Nielsen (Noble Resources), Diego Pizano (Federacion Nacional de Cafeteros) Ana Vorhinger (Armajaro Trading), Chris Wille (Rainforest Alliance), Liam Brody (Oxfam), Mary Williams (Starbucks Coffee) The authors would like to thank Adolfo Brizzi (SASRD), Martin Raine (LCSES), Mark Cackler (LCSER), Mathew McMahon (LCSER), Jock Anderson (ARD) and John Nash (RDVCG), whose support and encouragement made this study possible.

Weights and Measures

1 hectare (ha) = 10,000 m2 = 2.47 acres

1 quintal (qq) = 100 pounds = 46 kg

1 metric ton = 2,205 pounds

1 bag of coffee = 60 kg = 132.3 lbs

Mln = 1,000,000

Prices

In October 2001 the International Coffee Organization introduced a new calculation method for the Composite Indicator. In order to keep long-term price series consistent, this report has maintained the previous calculation method.

Coffee and Crop Years

In this paper, references are made to production and demand quantities, and supply/demand balances using both crop years and Coffee years. Each Crop Year covers an overlapping 18 month period, starting in April of one year, with the Indonesian and Brazilian robusta crops, and finishing in September of the following year with the end of the crops in Central America, Colombia and Vietnam.

The Coffee Year is recognized as being the International Coffee Organization's accounting period of October to September. Where the coffee is harvested across this period, as in Tanzania, for example, the crop year is split according to the proportion harvested. In some cases, an entire crop gets moved back one year from its crop year. An example of this effect can be seen in Brazil, where the 2002/03 Brazil Crop Year production is recorded in the 2001/02 Coffee Year as it is assumed to have been harvested by the end of September.

Acronyms and Abbreviations

ACPC	Association of Coffee Producing Countries
ABIC	Associacao Brasilera da Industria de Café
AEKI	Indonesian Coffee Exporters Association
AFD	Agence Française de Développement
CECAFE	Conselho dos Exportadores de Café Verde do Brasil
CRMG	Commodity Risk Management Group, World Bank
EMBRAPA	Empresa Brasilera de Pesquisa Agropecuária
EUREP	European Retailers Produce Working Group
FAO	Food and Agriculture Organization of the United Nations
FLOI	Fair-trade Labeling Organization International
FNC	Federación Nacional de Cafeteras de Colombia
G&S	Grades and Standards
GAP	Good Agricultural Practice standards
GIO	Geographic Indications of Origin
GIS	Geographic Information Systems
GMO	Genetically Modified Organism
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HACCP	Hazards Analysis at Critical Control Points
IBC	Instituto Brasileño do Café
ICA	International Coffee Agreement
ICO	International Coffee Organization
ICP	International Coffee Partners
IFOAM	International Federation of Organic Agriculture Movements
IMF	International Monetary Fund
ISEAL	International Social & Environmental Accreditation & Labeling Alliance
ISO	International Standards Organization
MRL	Maximum Residue Levels
NCA	National Coffee Association (U.S.)
NFCG	National Federation of Coffee Growers
NYBOT	New York Board of Trade
SCAA	Specialty Coffee Association of America
SMBC	Smithsonian Migratory Bird Center
SMEs	Small and Medium Enterprises
SOE	State Owned Enterprises
SPS/TBT	Sanitary and Phytosanitary/Technical Barriers to Trade
USDA	United States Department of Agriculture
VICOFA	Vietnam Coffee and Cocoa Association
WTO	World Trade Organization

Executive Summary

About 17-20 million families - mostly small farmers - in over 50 developing nations produce and sell coffee. A number of them are facing considerable difficulties because of the dramatic decline in the price of coffee to 100 year lows in real terms. The destabilizing effect of the price crisis has sparked concern in some of these countries that have experienced bank failures, public protests, and dramatic falls in export revenues. This single crop represents more than 20 percent of export earnings for nine developing countries; it accounts for more than half of all export earnings in four countries. By some estimates, approximately 100 million people are directly affected economically by the coffee trade.

In recent years structural changes have significantly altered the markets for coffee. A set of new and emerging paradigms are likely to dictate coffee's future, and will have permanent effects on the livelihoods of the millions who depend on it. The consequences of the crisis in each country and region have been different according to the industry structure of the country concerned. In Central America, for example, where there are larger farms using higher amounts of additional non-family labor, there has been high labor displacement, as well as both worsening of poverty levels among small farmers and default problems in the banking sector. In regions such as Africa the social costs, particularly for small farmers, are also acute and difficulties are aggravated at the national level due to balance of payments problems and lost revenues.

Coffee has historically been subject to supply/price volatility due mostly to weather shocks. The industry is now undergoing a structural change in the nature of supply, particularly increases in both the quantity and quality of Brazil and Vietnamese coffees. Along with Colombia, these three countries now account for about 61 percent of total production, and in 2002, 55 percent of exports, each one having strengthened its domination of a different market segment. Increased access to financial and futures markets particularly in countries such as Brazil, have enabled some producers to better manage risk. This will have an impact on supply, making it easier to smooth shipments across wide cyclical production swings that occur particularly in Brazil.

The market oversupply was not entirely unexpected but the depth of its impact has been a shock to most participants and observers. A combination of policy and market failures left producers without access to realistic information about developments elsewhere, while policy signals isolated them from the consequences of expanding production. However, even with good information it is not at all certain whether many coffee producers would have had the capacity for a suitable response since most have only limited resources, and very few have viable income alternatives in poor rural areas.

Concurrent with supply changes, there have been structural changes in demand both at the industrial level and at the consumer level. These changes include increased demand for differentiated and higher value products, increased demand for soluble coffee, new technology allowing greater fungibility in coffee supplies, and geographic-generational shifts in the popularity of different types of coffee products. It is important to understand these changes because in today's free markets there is otherwise little hope of relieving the considerable damage caused by market failures such as imbalances in the trading chain, and persistent failure of both private markets (for coffee, credit, and risk) and public institutions to provide timely and accurate information to producers in order to help them to better manage their supply

Coffee as a commodity that is priced according to the New York or London exchanges is the dominant trade paradigm for the coffee industry. However, a growing group of producers and coffee firms are pursuing strategies that are independent of commodity pricing and the exchanges. Many of these alternatives include some differentiation of the coffee, usually by either quality or cultivation processes. A number of companies in the industry, including some that are household names, are adopting standards or

developing purchasing criteria that transparently link their buying to positive socio-economic and environmental effects in developing countries. Such emerging trade paradigms may offer producers alternative ways to capture the long-term value of sustainability by linking superior prices to demonstrable advancements in both the quality of the coffee and to more sustainable cultivation and trade practices.

Roasters have responded to the shift in supply by adapting their technology so as to increase their use of lower-cost natural arabicas and robustas. They also introduced greater flexibility in their blends in order to respond to lower-priced availability although there is recent anecdotal evidence that this tactic may have sometimes resulted in a negative consumer response as coffee quality declined. The increasing concentration of roasters has enabled them to work with lower inventories by pushing increased just in time logistical demands down to their suppliers. Such demands have favored the largest trading companies and led to considerable concentration in this part of the supply chain as well.

In recent years the producing countries' share of the retail value of coffee products has declined as green coffee prices have fallen. In addition to the problems of market failure described above, two other factors have contributed significantly to this widening gap. First, the coffee roasting and retail industries have made considerable profits by developing new products and by taking advantage of various value-adding activities such as marketing, branding, differentiation, and flavoring. As an example, the recent expansion of demand for soluble coffee, which is among the most profitable parts of the business, has enabled the industry to capture increased value from less expensive raw materials such as robusta coffees. Second, the non-coffee components included in the retail price of coffee such as wages, packaging and marketing have grown and now represent a much more significant share of the total price than the actual coffee itself. A further impact comes from the fact that a number of countries that import coffee earn billions of dollars annually in taxes from it. In some of these countries, these taxes alone are approximately equivalent to the coffee revenue earned by the producing countries.

Producers' share however will still be more influenced by changes in the price level of green coffee than by changes in any other cost component because these costs are unrelated to the price of green coffee. Green coffee prices are the single most volatile expense incurred in putting roasted coffee on the market shelf and consequently one of the major determinants of changes in the producing countries' share of the retail value. Producers' ability to capture fair value from their output will require that producer organizations and producer countries act to improve their capabilities and their bargaining position with a clear understanding of these two factors as well as of the structural changes and the market failures mentioned above.

The demand picture has become complex with slow or stagnant overall growth in the traditional major importing countries, while promising segments within these markets are experiencing strong demand. These include high-quality and differentiated coffees as well as novel forms of soluble coffee. At the same time, there is increasing preferences for espresso style coffees in many markets that do not depend as much on the flavor profiles of many high-quality washed arabica coffees. These shifts, and the strong competitive response of the largest producers, particularly Brazil, are reducing the demand for certain types and origins of coffee, leaving the worst affected countries with large social and economic costs.

Many of these countries are seeking new strategies and ways to redefine their market position away from a commodity trading system that they increasingly perceive as onerous and partly responsible for the loss of share of market value as described above. Differentiation is a popular consideration, but one which would probably provide only a partial answer for the near term while other answers are needed for the majority of coffee producers.

Differentiation by producers requires them to distinguish their products because of distinct origin, defined processes, or exceptional characteristics such as superior taste or few defects. They consist of various types of coffees that can be traded through more lucrative channels than the typical industrial grades that flow in the undifferentiated commodity channels and include:

1. Geographic Indications of Origin (appellations)
2. Gourmet and Specialty
3. Organic
4. Fair Trade
5. Eco-friendly or shade grown
6. Other certified coffees

While these differentiated segments can provide some producers with competitive advantages and added value, they are not necessarily easy to access and are still relatively small. Nevertheless, they are important because of their growth rates and their potential to provide better social, economic, or environmental benefits for farmers. Although much of the coffee industry feels that premiums paid to growers for differentiated coffees are reasonable, it may be prudent to de-emphasize price premiums as a reason for entering these markets since it is quite plausible, in some cases at least, that these premiums will diminish. These markets should not however be discounted, because they can often have a considerable impact on the income of farmers. Besides premiums, there are several other convincing arguments for fostering the differentiated segments, particularly those certified as organic, fair trade, or eco-friendly because of their positive externalities in the field such as:

1. Increased use of rural labor and organizational development
2. Crop diversification and reduced input costs minimize financial risk
3. Better natural resource management and biodiversity conservation
4. Reduced risk due to improved drought and erosion resistance
5. Crop resilience to adverse weather
6. Fewer health risks due to potential mishandling of agrochemicals

Currently the differentiated markets import roughly 6-8 million bags of green coffee representing about 9-12 percent of the total, and a somewhat larger percentage of profits, to the developed markets in North America, Western Europe, and Japan. Some of the extra value of these coffees is created and captured in consuming countries. To the extent that some of this higher value is kept by producers for their differentiation, these markets are breaking the pattern of a declining producer share of revenue.

Because many producers are showing strong interest in these coffees, a word of caution is warranted. As more of these coffees come onto the market, the ensuing saturation could significantly diminish their prices. These markets are still small and even small changes in supply and demand can impact prices. However, most of the major coffee companies are instituting increased requirements for sustainable growing practices that will require further adoption and certification of these practices. Several very large buyers that are now testing the market with these products claim that there is a limited supply if they should decide to make a stronger commitment.

As markets for differentiated coffees grow there is an increasing need for consumers to understand the sometimes complex verification or certification processes that apply to the standards-oriented coffees such as organic, fair-trade, eco-friendly, Utz Kapeh and those using Geographic Indicators of Origin. The legitimacy of third party certification is a vital market mechanism that can prevent indiscriminate use of these terms. The alternative may be a loss of consumer confidence that would cost the entire industry by damaging one of its few fast-growing segments. Perhaps more importantly, failure to improve clarity about these standards and to support third party verification could also damage one of the few niches where small coffee producers have a chance to be competitive in a lucrative global trade. This is particularly important as various organizations, including corporations, are developing their own independent sustainability principles and standards.

Differentiated coffees are not a panacea and industry surveys indicate that two other factors are equally or perhaps more important to be competitive in today's coffee markets: quality and consistency. The high value placed on consistency underscores the industry's preference for steady and predictable quality given the costs and risks of sourcing from new suppliers. This critical competitive factor has several implications, particularly for smaller suppliers, regarding the need to improve basic business practices as well as agronomic practices in their cooperatives and organizations.

Another solution that is often proposed for the coffee crisis is the diversification of some farmers away from a strong dependence on coffee. Although this can be conceptually sensible, there are very few alternatives that either come close to coffee's valuable characteristics such as its marketability and long shelf-life, especially for remote rural areas, or which present realistic alternatives for the terrains in which coffee is currently grown. Trade protectionism in developed country markets and in particular their continued high levels of subsidy for their own farmers pose additional obstacles to diversification into higher value or processed products thereby leaving producers with limited access to these markets. Consequently, other answers are needed for many coffee producers.

Global coffee consumption has shown noticeable regional differences. North America and Japan are growing slowly. Northern European consumption, particularly in Germany is stagnant, but in southern Europe, there are some increases. Emerging markets in Asia, Eastern Europe and the former Soviet Union that are not traditional coffee consumers are posting rapid growth in consumption. However this is primarily for inexpensive soluble coffees although tastes are evolving toward improved quality and novel characteristics such as pre-mixed cappuccino. Soluble is an important key to developing these traditionally tea drinking markets since most consumers are unfamiliar with coffee brewing methods and paraphernalia and less able to afford these.

Consumption has been mixed in producing countries but is typically low, and Brazil, now the world's second-largest consumer, still sets the benchmark for increasing domestic consumption. Its concerted approach to improving labeling, consumer perception, and quality while using effective market segmentation poses lessons that are relevant for other countries wanting to expand consumption.

Given the long-term historic cycles, it is highly likely that supply will eventually align more closely to market demand for a period and that prices will somewhat recover. While conditions for producers will certainly improve as that happens, it will not signal an end to their problems, as the economic causes of these cycles suggest that they are likely to continue to repeat themselves regardless of the actual levels at which supply and demand would actually converge. Price recovery then, given the inherently cyclical nature of current coffee markets, is likely to be only temporary while other issues of social, environmental, and economic sustainability will remain. Other emerging trends will also have a significant effect on their future competitiveness and sustainability. Structural changes in the ability to manage and finance supplies and the reduction of the historically high weather related risk lowers the likely frequency with which prices might return to the previously reached highs.

The structural changes in the global coffee industry over the past few years will have a powerful influence on the nature of these markets. This influence could be as important as the cyclical, often weather-related, shifts in supply and demand that have considerably influenced the coffee market in the past. In order to thrive in this new business environment, coffee producers must understand the characteristics and the nature of these structural changes. Their governments must be more agile in creating favorable business environments to allow them to successfully adapt to the new demands of the marketplace and to help them potentially shape it. In the current situation of liberalized markets and decreasing state support for agriculture it will be increasingly incumbent upon producer and trade organizations to provide necessary services. Fostering the necessary research, extension, risk management, diversification, and marketing will all require dedicated long-term programs to strengthen and train such organizations. As agriculture increasingly takes on industrial characteristics these organizations will also need to establish closer relationships and direct linkages with buyers and roasters in order to adequately respond to market demand and form integrated value chains that help to assure the sustainability of each member.