

The Key Determinants on the Global Coffee market

Кључне детерминанте на глобалном тржишту кафе

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Abstract: The globalization and liberalization processes of the world coffee market caused its transformation and transformation of the relationships between the participants in the global coffee supply chain. The activities are divided between the producing countries, which produce and export green coffee, and the consuming countries, which import green coffee, transform it into a final product, and put it on the market for domestic consumption through wholesale and retail or export it. The aim of this paper is to identify the determinants of supply and demand, as the key determinants which impact the coffee price volatility, and to point towards the major challenges of economic, social and environmental sustainability of the global coffee supply chain through an analysis of their movements.

Keywords: coffee market, globalization, supply, demand.

Сажетак: Процеси глобализације и либерализације на светском тржишту кафе узроковали су његову трансформацију и трансформацију односа између учесника у глобалном ланцу снабдевања кафом. Активности су подељене између земаља произвођача, које производе и извозе зелену (сирову) кафу, и земаља потрошача, које увозе зелену кафу, прерађују је у финални производ и путем велепродаје и малопродаје дистрибуирају на тржишту ради потрошње или извоза. Циљ овог рада јесте да се идентификују детерминанте понуде и тражње, као кључне детерминанте које утичу на нестабилност цена кафе, те да се анализом њиховог кретања укаже на главне изазове економске, друштвене и еколошке одрживости глобалног ланца снабдевања кафом.

Кључне речи: тржиште кафе, глобализација, понуда, тражња.

Introduction

The international trade liberalization and deregulation of the world coffee market eliminated the quantitative restrictions on trade, although barriers like technical and ecological standards, phytosanitary requirements, certificate of origins, etc., became very important. The suspension of the International Coffee Agreement's export quota system in 1989, under the pressure of competing demands from exporters for market shares, caused imbalance between the supply and demand for this commodity, and led to coffee overproduction by the major producing countries (International Trade Centre, 2016). The new technologies and techniques of coffee processing further influenced the green coffee prices and quality decline. World coffee market has faced a crisis with unforeseeable consequences. During the period from 1999 to 2004, prices have fallen to their lowest levels in comparison to the previous 30 years.

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Coffee producing countries, as mainly developing countries, are still very dependent on the export of this commodity, thus the crisis further deepened the gap, the inequalities and the imbalance of power between the participating parties in the global coffee supply chain, with far-reaching impacts on all of the actors. The fall in prices and quality of green coffee reflected negatively on the levels of revenues and profits of the coffee growers, unemployment, they lost their sources of livelihood, without any alternatives. On the other hand, the large multinational roasters, dealers/brokers and retailers predominantly located in the most developed countries, which play the most significant role in the decision making processes in the global coffee supply chain, recorded huge profits.

1. Coffee price volatility

Since its establishment in 1963 in London, International Coffee Organization (ICO) had a major role in regulation of the global coffee market through the International Coffee Agreements which involved application of an export quota system. These agreements were successful in managing supply and securing coffee prices stability. The quota system collapsed in July 1989, and the free market period began in 1990.

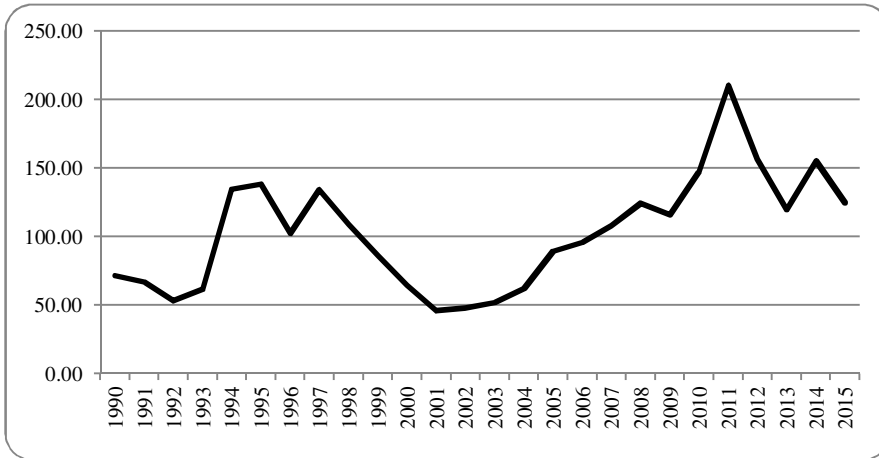
Figure 1 shows the movement of ICO composite and group indicator prices (in US cents/lb) from 1990 to 2015. This indicator is published by ICO, based on an agreed formula, and represents the best indication of a current "international price" for all four main types of coffee: Colombian mild Arabicas, other mild Arabicas, Brazilian and other natural Arabicas, and Robustas.

The period after the International Coffee Agreements suspension (Figure 1) can be observed in 4 sub-periods:

1. From 1989 to 1993 - prices fell because of the oversupply which was a result of huge stocks (Figure3) accumulated by producing countries during the previous period of market regulation;
2. From 1994 to 1998 - prices rose by 118% in July 1994 compared to 1993 as a result of frost in Brazil. The higher prices led to overproduction (Figure2).
3. From 1999 to 2004 - the coffee crisis period, when prices declined dramatically to their lowest level in comparison to the previous 30 years. During these 5 years coffee producers were not able to cover even the cost of production, and suffered heavy losses. There were negative consequences on the economies of coffee producing countries too. On the other hand, in the consuming countries the coffee market has remained stable. Coffee retail prices have not fallen, even recorded growth on some markets.
4. By the end of 2004 to the present day - prices have recovered and reached a 34-year high in mid 2011. But despite the prices recovery many coffee producers in

the developing countries have not realized benefits due to exchange rate changes, rise in labor costs, inputs, land fertilization, etc.

Figure 1. ICO composite and group indicator prices (in US cents/lb)



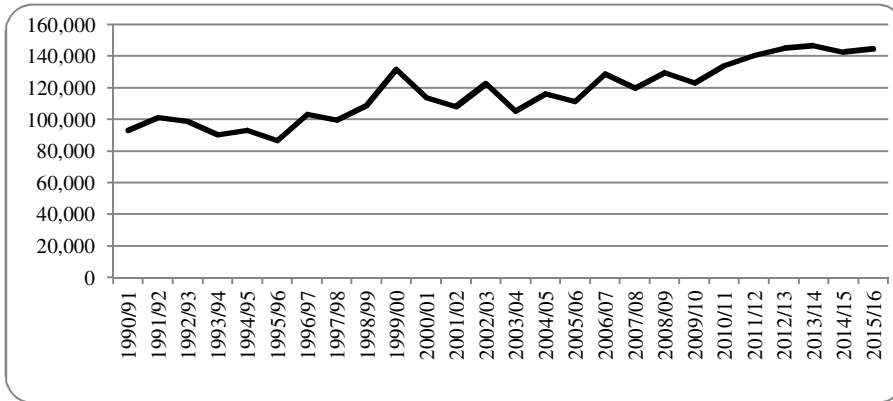
Source: International Coffee Organization, 2016

Price volatility is one of the major concerns for the participants in the global coffee chain. It is a source of uncertainty and instability in the coffee producing countries, related to export earnings, tax revenues, employment, producer incomes, etc., and source of difficulties in the coffee consuming countries, related to controlling processing costs, profit margins, etc.

2. The determinants of the global coffee supply

As well as supply for the most agricultural products, coffee supply is primarily determined by the size of its production. The dominant coffee producing country in the world is Brazil. It produces around 30% of the total world production of this product (43.235 of the total of 144.752 thousand 60kg bags produced in 2015/16). Vietnam is the second coffee producing country (27.500 thousand 60kg bags in 2015/16), and Columbia is the third (13.550 thousand 60kg bags in 2015/16). Brazil and Columbia mainly produce Arabica, although it must be point out that in recent years Brazil has increased the relative share of Robusta compared to Arabica. Indonesia, Ethiopia, India, Honduras, Uganda, Mexico, and Guatemala are also among the significant coffee producing countries. Figure 2 shows the total production tendencies from 1990/91 to 2015/16 crop year.

Figure 2. Total production by all exporting countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

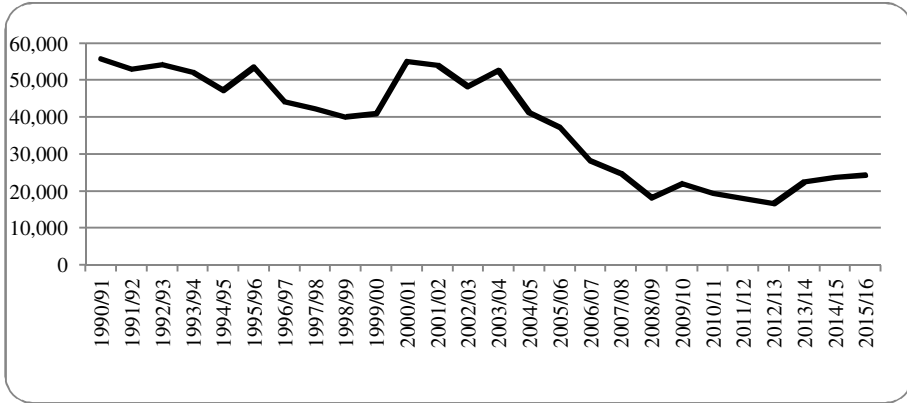
Coffee production depends to some extent on the natural conditions. It is very important to emphasize the fact that the coffee harvest period varies in different regions, and it is practically harvested continuously throughout the year (from April to October).

In addition to the cultivation of coffee, producing countries are active in processing of green coffee, classification of the grain size, assessment of the quality, packaging in bags, storage and transportation of the commodity to other countries, etc. So, the size of coffee plantations, strikes in harbors, wars or potential political instability, exchange rates, etc., are also factors that can affect the supply.

Green coffee can be kept in stocks for a long time under adequate conditions without significant changes in quality. Since coffee is grown in countries with moderate temperatures and relative humidity, its storage is possible in both producing and consuming countries. Stocks held in importing countries are usually referred to as inventories to distinguish them from stocks held in producing countries (International Trade Centre, 2011, p. 9).

The amount of green coffee stocks and inventories is a factor of a great influence on coffee prices. Stocks and inventories tend to mitigate price fluctuations caused by combination of price inelasticity of demand and supply changes. Figure 3 and Figure 4 show the evolution of stocks in all exporting countries, and inventories in selected importing countries (EU, Japan, Norway, Switzerland and US) from 1990/91 to 2015/16 crop year.

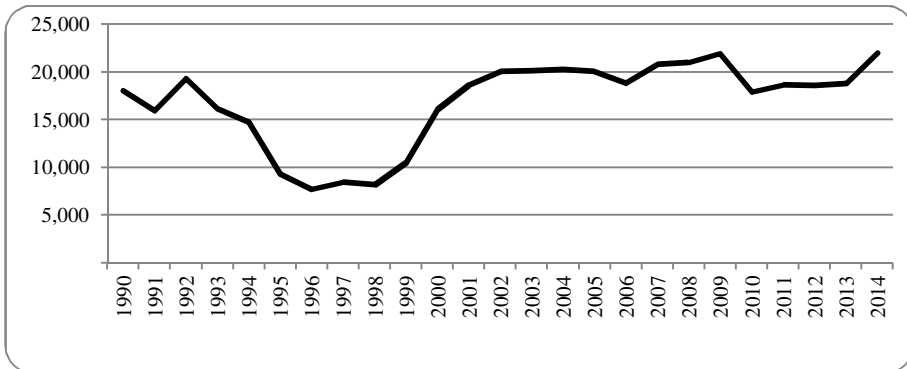
Figure 3. Gross opening stocks in all exporting countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

Analysis points towards reduction of the chronic surpluses which had hit the coffee market during the crisis years, and gross opening stocks in exporting countries at the lowest levels in recent years. Inventories tend to grow when prices are low and deplete when prices are higher, although the relationship is far from linear (International Trade Centre, 2011, p. 9).

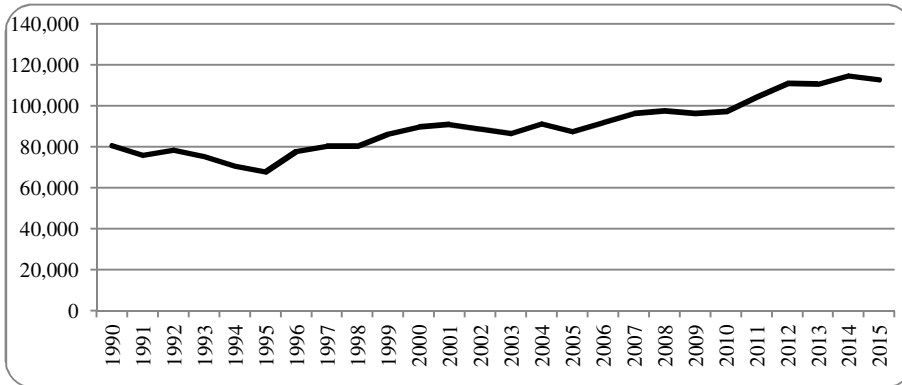
Figure 4. Inventories of green coffee in selected importing countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

The long-term elasticity of coffee supply is also influenced by the countries dependence on coffee export. Share of coffee in total exports value of all commodities in 2010 in Burundi represented about 70%, Ethiopia and Rwanda around 25%, so coffee represents an example of commodity-dependency, and its export makes many of the producing countries vulnerable to exogenous shocks (ICO, 2015, p. 2). The movement of total export of all forms of coffee by all exporting countries can be seen in Figure 5.

Figure 5. Exports of all forms of coffee by all exporting countries (in thousand 60kg bags)

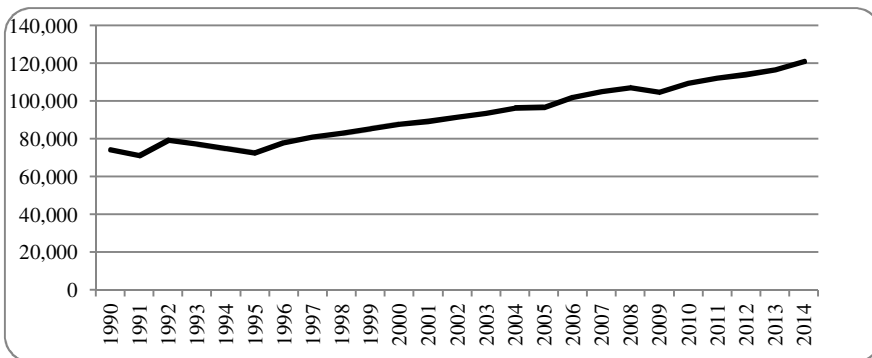


Source: International Coffee Organization, 2016

3. The determinants of the global coffee demand

The traditional most significant coffee importing and consuming markets are the most developed countries, such as the US, EU and Japan. The US is the largest single importing and consuming coffee market (27.565 of the total 121.013 thousand 60kg bags imported in 2014, and 23.767 of the total 80.641 thousand 60kg bags consumed in 2014). When it is observed as integration, EU actually imports (76.211 thousand 60kg bags in 2014) and consumes (42.214 thousand 60kg bags in 2014) the largest quantities of coffee. Within EU major importing and consuming countries are Germany, Italy, France and Spain. Japan, as the third, imported 7.657 thousand 60kg bags in 2014 and consumed 7.494 thousand 60kg bags in 2014. Figure 6 and Figure 7 show the movement of imports and consumption by selected importing countries (EU, Japan, Norway, Russian Federation, Switzerland, Tunisia, Turkey and US) from 1990 to 2014.

Figure 6. Imports by selected importing countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

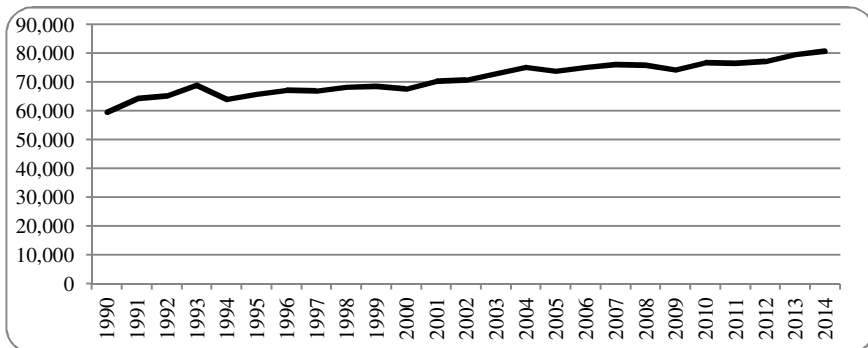
As shown in Figure 7, consumption growth in selected countries is constant, but weak. Coffee markets in these countries reached a saturation point, but there are still niche opportunities. The global coffee chain has gone through a „latte revolution“ where consumers in the most developed countries can choose from (and pay dearly for) hundreds of combinations of coffee variety, origin, brewing and grinding methods, flavoring, packaging, social „content,“ and ambience (Ponte, 2002, p. 1099).

Along with the consumer interests in diversity, their interest for ethical consumption grew too. There is no clear definition of ethical consumption. It represents a consumption which takes into account social and environmental concerns of products, involving a wide range of issues, such as environmentally friendly products and production methods, reduction of greenhouse gases, protection of the tropical rainforest, labour standards (wage rates and working conditions), prevention of child labor, human rights, employment of handicapped people, etc. (Zander, 2010, 495).

However, certified coffees (Organic, Fair Trade, Rainforest Alliance, Bird Friendly and Utz Kapeh) emerged on the market, achieving higher growth rates and higher retail prices than conventional coffees. Certified coffees include socio-economical and environmental concerns, implying compliance with certain standards. These are process standards that rather than just measuring the characteristics of a final product - typically assess the interconnected processes of production, agro-processing, and trade. In so doing, they attempt to cover the whole value chain from farmer to consumer (Giovannucci & Ponte, 2005, p. 286).

The Netherlands is the leading market for certified coffees, with the half of all coffee sold has a sustainability certification. The market developed from a market share of <1% in the mid-1980s to 45% in 2010, with a share of 75% projected by 2015 (Ingenbleek & Reinders, 2013, p. 461).

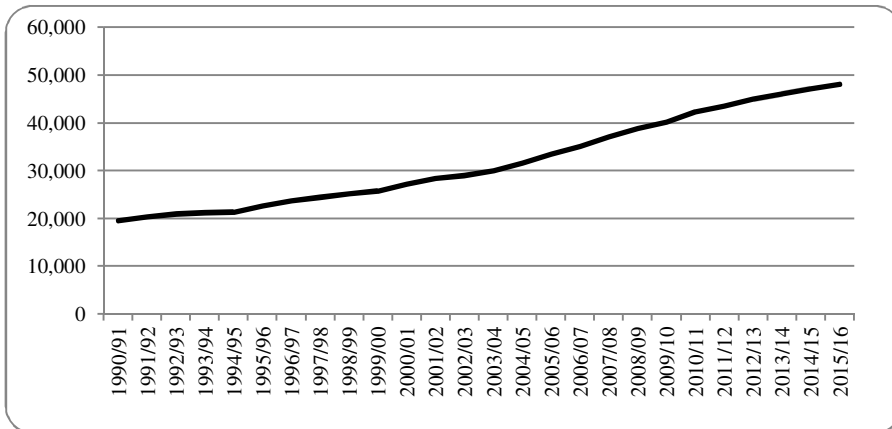
Figure 7. Disappearance (consumption) in selected importing countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

Coffee consumption in producing countries is mostly determined by the country policy. Producing countries are trying to stimulate domestic consumption in periods of higher production, lower prices and larger stocks. When the market trend changes, production decrease, prices increase, and stocks reduce, subsidies for selling coffee on the internal market are abolished. Thus, prices on the domestic markets often grow more than proportionally in comparison to international prices. The data in the Figure 9 shows that the largest increase in consumption was recorded in these countries.

Figure 8. Domestic consumption by all exporting countries (in thousand 60kg bags)



Source: International Coffee Organization, 2016

Conclusion

As the analysis show, the volatility of the global coffee market is most affected by the changes in the supply of green coffee. The movements of its key determinants such as production, gross opening stocks in exporting countries and inventories in importing countries, have a major impact to movement of coffee prices, and vice versa. The demand for conventional coffees in the most developed countries records weak growth, but there is a rising consumer interest for certified coffees. However, those are not such significant quantities yet, although they are of a big potential, certainly in terms of much higher coffee prices and much higher profit margins.

The issue of profit distribution and negotiation power between the global coffee supply chain parties is certainly a subject of severe criticism by the public, consumers, NGOs, etc. While the existence of about 125 million people in developing countries directly depend on the volatility of coffee prices is threatened, coffee industry in developed countries records huge profits. The gap between the participants is widening. Sustainability strategies must be integrated within the global coffee supply chain, and sustainability standards and practices must be imposed to address the issues such as destruction of the environment caused by the process of growing coffee, better

working conditions, minimum wage legislation, exploitation and abuse of child and women, local community development, etc. (Нушева, 2010, p. 102). If governments are too weak and/or unwilling to be agents of justice, the private actors and institutions such as certification systems can at least partially take the agency of justice (Valkila et al., 2010, p. 258).

References

Ingenbleek, T. M. & Reinders, M. J. (2013). The Development of a Market for Sustainable Coffee in The Netherlands: Rethinking the Contribution of Fair Trade. *Journal of Business Ethics*, 113 (3), 461-474.

International Coffee Organization (2016). Historical Data on the Global Coffee Trade. Retrieved 15 August 2016 from http://www.ico.org/new_historical.asp?section=Statistics

International Coffee Organization(2015). Sustainability of the coffee sector in Africa. Retrieved 3 September 2016 from <http://www.ico.org/documents/cy2014-15/icc-114-5e-overview-coffee-sector-africa.pdf>

International Trade Centre (2011). The Coffee Exporter`s Guide. Retrieved 26 August 2016 from <http://www.intracen.org/The-Coffee-Exporters-Guide---Third-Edition/>

International Trade Centre (2016). The Coffee Guide. Retrieved 24 August 2016 from <http://www.thecoffeeguide.org/coffee-guide/world-coffee-trade/key-events-in-the-history-of-the-International-Coffee-Agreement/>

Нушева, Д. (2010). Стандарди фер трговине. *Анали Економског факултета у Суботици*, 46 (23), 101-107.

Ponte, S. (2002). The `Latte Revolution`? Regulation, Markets and Consumption in the Global Coffee Chain. *World Development*, 30 (7), 1099-1122.

Valkila, J., Haaparanta, P. & Niemi, N. (2010). Empowering Coffee Traders? The Coffee Value Chain from Nicaraguan Fair Trade Farmers to Finnish Consumers. *Journal of Business Ethics*, 97, 257-270.

Zander, K.& Hamm, U. (2010). Consumer preferences for additional ethical attributes of organic food. *Food Quality and Preference*, 21, 495-503.

Résumé

The globalization processes emphasize the need for functional integration between the internationally dispersed activities in the production and trade of coffee. Instead of concentrating on just one participant or on one geographical location, there should be a focus on addressing the major constraints and obstacles at each level of the global

coffee supply chain. Successful economic, social and ecological development can be achieved over the long term only if the industry as a whole is competitive.